Statewide Transportation Planning Framework
Western Arizona Regional Framework Study

Working Paper # 2
Existing and Future Conditions

Prepared For:

ADOT

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100 YEARS

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Abbreviations

ADMP	Area Drainage Master Plan
ADOT	Arizona Department of Transportation
ADT	Average Daily Traffic
AGFD	Arizona Game and Fish Department
ALRIS	Arizona Land Resource and Information System
APS	Arizona Public Service
ARS	Arizona Revised Statutes
ASH	Area Service Highway
ASLD	Arizona State Land Department
ASTM	American Society for Testing and Materials
BLM	Bureau of Land Management
BRT	Bus Rapid Transit
CAAG	Central Arizona Association of Governments
CAP	Central Arizona Project
C-D	Collector-Distributor
CE	Categorical Exclusion
CFPO	Cactus Ferruginous Pygmy Owl
CIP	Capital Improvement Plan
CMAQ	Congestion Mitigation and Air Quality
CO	Carbon Monoxide
COG	Council of Governments
CYMPO	Central Yavapai Metropolitan Planning Organization
DCR	Design Concept Report
DOT	Department of Transportation
DU	Dwelling Unit
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Environmental Overview
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone

FHWA	Federal Highway Administration
FMPO	Flagstaff Metropolitan Planning Organization
FTA	Federal Transit Administration
FWS	Fish and Wildlife Service
FY	Fiscal Year
GAO	Government Accountability Office
GIS	Geographic Information Systems
GPDA	General Plan Development Area
GVW	Gross Vehicle Weight
HOT	High Occupancy/Toll
HOV	High Occupancy Vehicle
HURF	Highway User Revenue Fund
I	Interstate
ISA	Initial Site Assessment
ISTEA	Intermodal Surface Transportation Efficiency Act
ITS	Intelligent Transportation Systems
L/DCR	Location/Design Concept Report
LOS	Level of Service
LRT	Light Rail Transit
LWCFA	Land and Water Conservation Fund Act
MAG	Maricopa Association of Governments
MP	Milepost
MPA	Municipal Planning Area
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NACOG	Northern Arizona Council of Governments
NEPA	National Environmental Policy Act
NHS	National Highway System
NO_2	Nitrogen Dioxide
O_3	Ozone
O-D	Origin-Destination
PAG	Pima Association of Governments

PM	Particulate Matter
RAZ	Regional Analysis Zone
RMP	Resource Management Plan
RTP	Regional Transportation Plan
R/W	Right-of-Way
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SAZ	Socioeconomic Analysis Zone
SIP	State Implementation Plan
SPA	Special Planning Area
SEAGO	South Eastern Arizona Governments Organization
SR	State Route
SRP	Salt River Project
STP	Surface Transportation Program
TAZ	Transportation (or Traffic) Analysis Zone
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act for the 21st Century
TI	Traffic Interchange
TIP	Transportation Improvement Program
TSM	Transportation Systems Management
UPRR	Union Pacific Railroad
US or U.S.	United States
USFS	United States Forest Service
UZA	Urbanized Area
V/C	Volume to Capacity
VHT	Vehicle Hours of Travel
VMT	Vehicle Miles of Travel
WACOG	Western Arizona Council of Governments
WAPA	Western Area Power Administration
YMPO	Yuma Metropolitan Planning Organization

Please insert and delete abbreviations as necessary

2.1 INTRODUCTION

The Statewide Transportation Planning Framework : Western Arizona Regional Framework Study Working Paper #2 presents an inventory and analysis of the Existing and Future Conditions gathered from previous and current planning studies conducted by Federal, State, County, and Municipal agencies.

The Western Region of the Statewide Framework Study is comprised of Mohave, La Paz, and Yuma Counties as depicted in Figure 2-1. The major cities and towns of the area are Kingman, Bullhead City, Lake Havasu City, Parker, Quartzsite, Yuma, Somerton, San Luis, and Wellton.

A significant portion of the land area is devoted to open space, although it is traversed by transportation facilities. This portion of Arizona borders the states of California, Nevada, Utah, and the states of Baja and Sonora in Mexico, and is a key link for travelers as well as both truck and rail freight movement.

Figure 2-2a and Figure 2-2b depict the boundaries of all the jurisdictions and Municipal Planning Areas (MPA) within the study area, and the specific land ownership in the study area.

Figure 2-1 Project Location

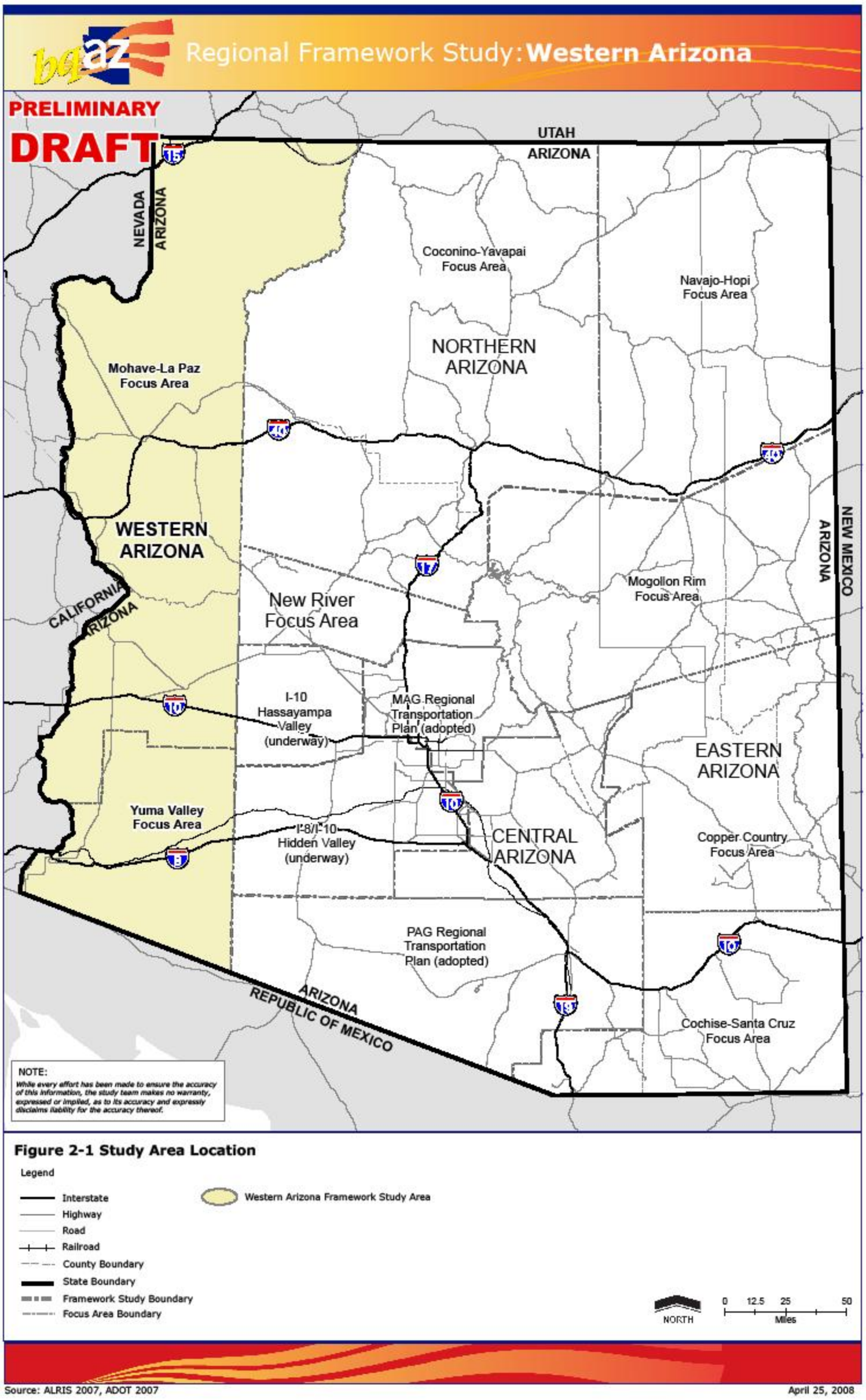


Figure 2-2a Municipal Planning Areas Mohave-La Paz County

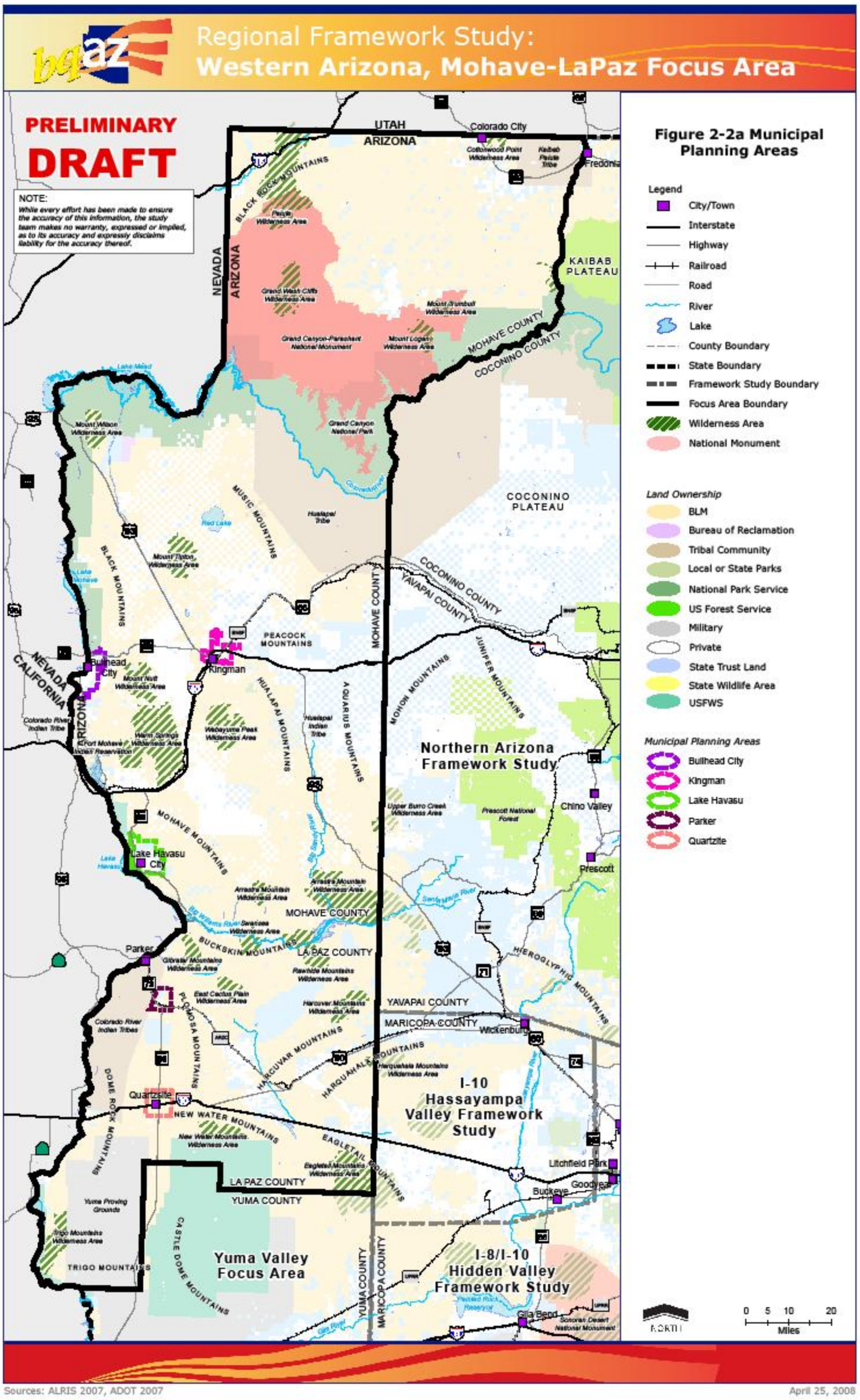
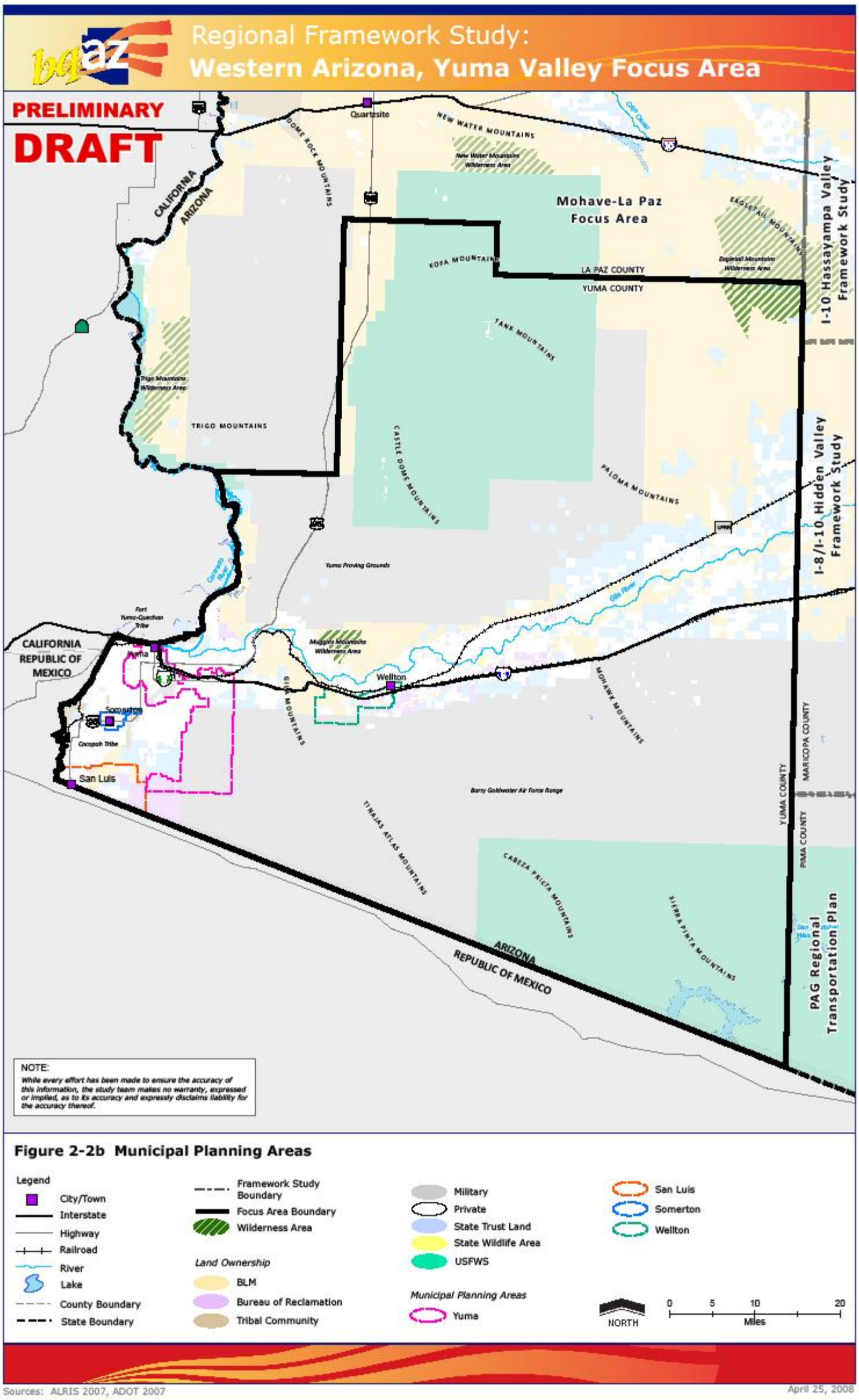


Figure 2-2b Municipal Planning Areas Yuma County



2.2 ENVIRONMENTAL CONTEXT

The purpose of the Environmental Context is to provide a high-level, general description of the physical and natural characteristics, cultural resources, and man-made features existing in the Western Region. The primary purpose of this overview is to identify potential fatal or critical flaws that may make any proposed transportation improvement program packages or specific projects infeasible. This Environmental Context section is a general description of environmental conditions and is not intended to meet the requirements of the National Environmental Policy Act (NEPA). Specific projects that would be proposed as a result of this framework study would be subject to additional environmental study and documentation per applicable state and/or federal requirements.

2.2.1 Geology and Topography

The study area extends southward from the Arizona-Utah state border to the city of San Luis-Mexican border and eastward from the Colorado River approximately 100 miles to the eastern boundaries of Pima, Maricopa, Yavapai, and Coconino counties.

The Western Region encompasses the three main distinct geological provinces recognized in Arizona: the Colorado Plateau, the Basin and Range, and the Transition Zone.

The Colorado Plateau is generally a broad, flat, and level landscape composed of colorful sedimentary rocks (e.g., sandstones, shale, and limestone) and punctuated by canyons and mountains. It ranges from roughly 4,000 to 9,000 feet above sea level (ASL). This province is characterized by tablelands varying from considerable to very high relief.[1] A notable feature of the Colorado Plateau is the Grand Canyon. Fluvial deposits along the Colorado River involve three intergrading components: tributary alluvial fan bouldery deposits cobble and gravel bars, and fine-grained (sandy) terraces. This geological province extends through the northern portion of the study area in Mohave County.

The Basin and Range is characterized by north-south trending low mountain ranges (1,000 to 3,000 feet elevations) that bound low-lying, arid valleys, or plains. The valleys are fertile and can sustain agriculture with an adequate water supply. 50-80% of the topography within this province is characterized as gently sloping.[2] Mountain soils in the Basin and Range Province are generally grouped by either soils formed on granitic and schistose rocks, or soils formed on volcanic rocks. These soils are generally shallow, rocky, and gravelly.[3] This province extends throughout the Western Region study area.

The Transition Zone, also referred to as the Central Highlands, separates the two other provinces. It is characterized by numerous mountain ranges separated by several basins. The topography includes tablelands of considerable relief, plains with low mountains, and high relief mountains.[4] The province contains exposed sedentary, igneous, and metamorphic rocks. The Transition Zone extends into a portion of Mohave County.

[1] Hecht, M.E. and R.W. Reeves. 1981. The Arizona atlas. (Office of Arid Lands Studies, University of Arizona), Tucson. p 164.

[2] ibid.

[3] ibid.

[4] ibid.

Geologic Issues/Hazards

The Western Region is prone to feeling the effects of earthquakes due to its proximity to major paleotectonic fault lines originating in Southern California, Mexico, and the Colorado Plateau. These major fault lines include the San Andreas, Imperial, Garlock, Cerro Prieto, Algodones, Aubrey, Big Chino, and Virgin Mountains. In addition, the Grand Wash, Hurricane, and Toroweap fault systems underlay the northern portion of the study area in Mohave County.

Surficial damage is the primary potential seismic hazard, involving damage to buildings and infrastructure, and causing harm to people. Another potential hazard is liquefaction. Liquefaction can occur in areas that have relatively unconsolidated soil and shallow groundwater, which when mixed during an earthquake, can cause the soil to become very soft and sink. The obvious risks are to those structures and inhabitants occupying the land. Areas along the Colorado Corridor are potentially susceptible to liquefaction.[5] Building structures that are built to code can minimize the risk of damage to liquefaction.

Principal Landforms

The elevation in the Western Region varies from 141 feet in Yuma to a high of 8,400 feet on Hualapai Peak in the Hualapai Mountains in Mohave County. Mountain ranges in the study area include, but are not limited to, Castle Dome Mountains, Kofa Mountains, Gila Bend Mountains, Black Mountains, Hualapai Mountains, Mohave Mountains, and the Plomosa Mountains.

The Colorado Plateau, with its series of flat lands, gorges, mountains and valleys, occupies the northern section of the study area. It also encompasses the Grand Canyon. Alluvial fans are often found in desert areas subject to periodic flash floods from nearby thunderstorms in local hills. They are common around the margins of the sedimentary basins of the Basin and Range province. Landforms present in the Western area are features typically associated with desert regions. Much of the shaping of the present southern Arizona landscape occurred during the Quaternary (i.e., the last two million years) (Cooley 1967).[6]

Slope Analysis

Slope analysis is an important consideration in determining site selection for the construction of public infrastructure, residential, commercial, and industrial developments. A thorough slope analysis addresses the *degree of slope* and *slope stability* of earth and rock-fill dams, slopes of other types of embankments, excavated slopes, and natural slopes in soil and soft rock. For the purposes of this study, generalizations regarding the *degree of slope*, as provided by the State Land Department's Arizona Land Resource Information System (ALRIS), are discussed absent any specific geological site investigations. Future proposed projects would be required to undergo full slope analyses.

[5] Earthquake Hazard Evaluation, La Paz County, Arizona. August 31, 1997 Douglas B. Bausch and David S. Brumbaugh, Arizona Earthquake Information Center, Northern Arizona University.

[6] Cooley, M.E. 1967. Arizona Highway Geologic Map: Arizona Geological Society. One sheet.

As depicted in *Figure 2-3a*, the Mohave-La Paz focus area is home to several mountain ranges separated by valleys. As would be expected, the majority of the area contains land with slopes exceeding 10%, much of which is 20% or greater. The Yuma Valley focus area encompasses vast areas of relatively level slopes (5% or less) and is punctuated with mountainous slopes, as shown in *Figure 2-3b*.

Future infrastructure improvements and developments throughout the Western Region would generally be most feasible within the low lying areas (slope of 5% or less) or collocated in mountainous areas where infrastructure currently exists.

Land Subsidence & Earth Fissures

The issue of land subsidence and earth fissures in the southwest is related to the excessive and long term-use of groundwater without adequate groundwater recharge. Areas that deplete groundwater without adequate recharge are potentially susceptible to these phenomena. Subsidence results from the compaction over time of rocks and sediments that fill the subterranean voids where water once occupied. It is a gradual process that affects large areas and is irreversible. Where land that has unevenly subsided, earth fissures can result. Fissures manifest at the surface as small, visible cracks to become wide, deep channels.

Land subsidence and earth fissures have occurred in Arizona, mainly in the central and south central regions of the state where demands for agriculture production and urban uses have been heavy. Occurrences of subsidence and fissures in the Western Region have not generally been a documented issue; thus, this area has not been subject to detailed study by state or federal resource agencies for this issue.[7] However, as large scale demand for groundwater in the study area increases, so does the possibility for land subsidence and earth fissures.

[7] The United States Geologic Survey (USGS) assisted the Bureau of Reclamation (BOR) in the design and alignment of canals in the Central Arizona Project to ensure that the multimillion-dollar system would not fail as a result of potential surface cracking and changes in land-surface configuration. http://water.usgs.gov/wid/html/GW.html#HDR3.

Figure 2-3a - Slope Analysis Mohave-La Paz Focus Area

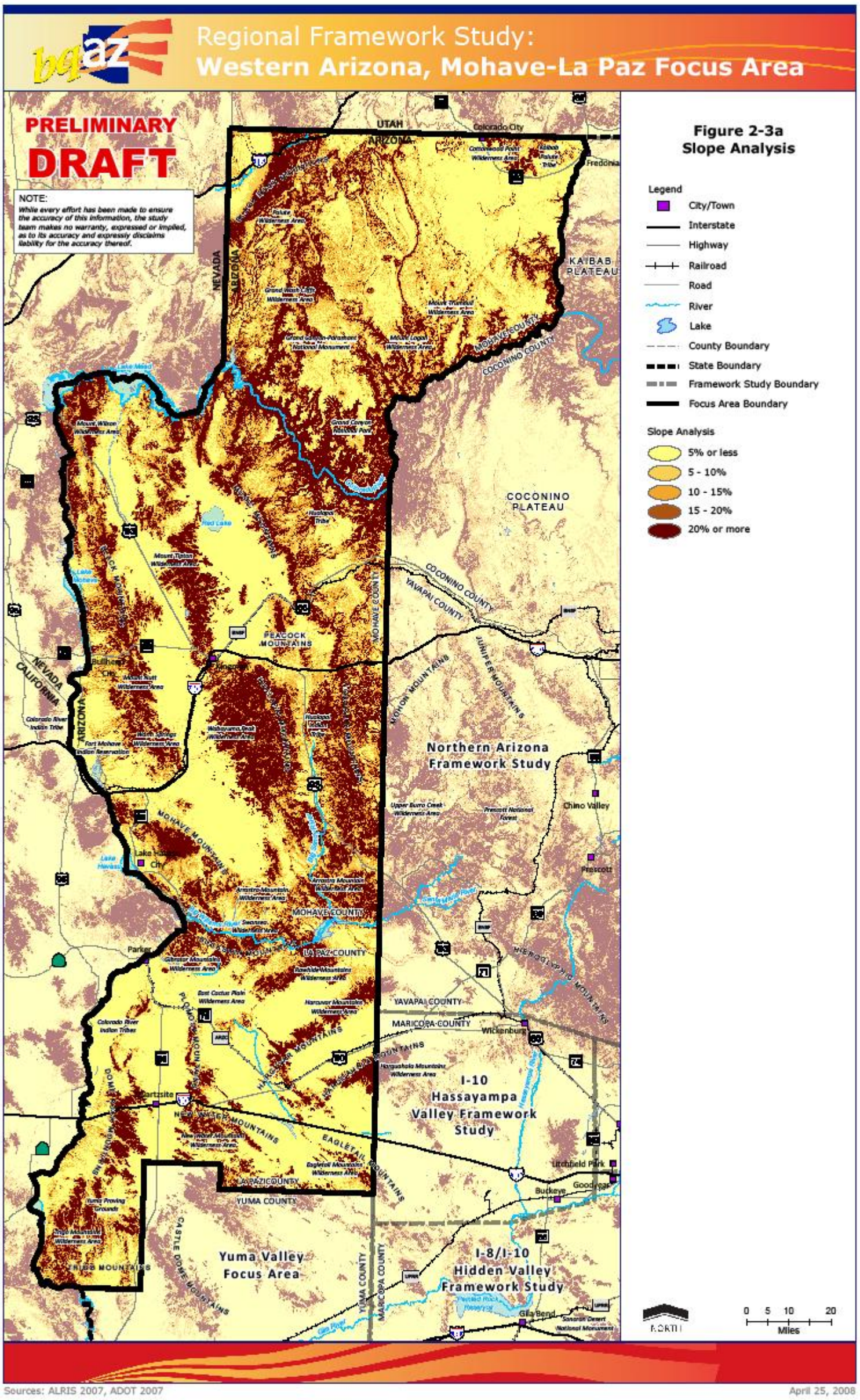
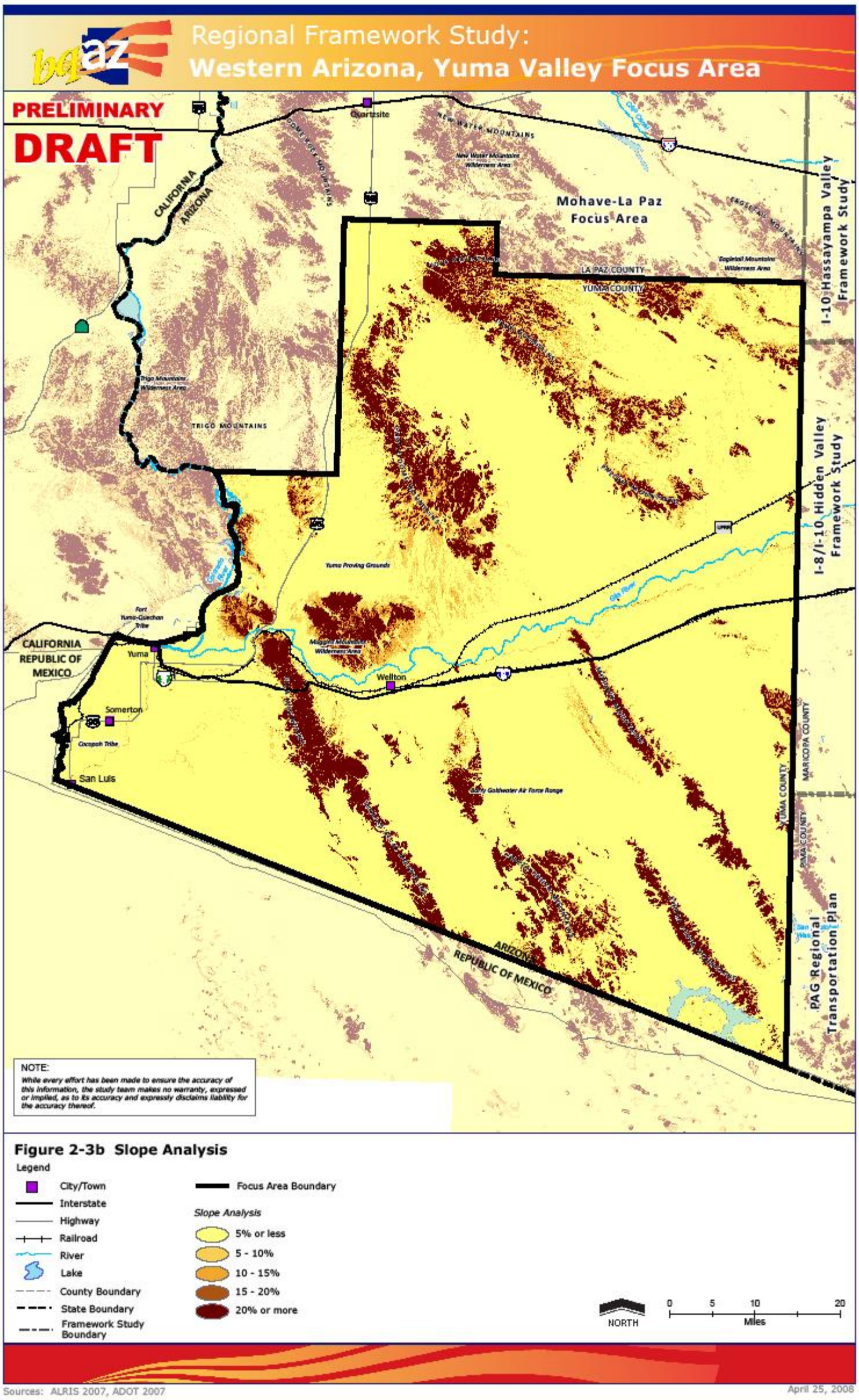


Figure 2-3b - Slope Analysis Yuma Focus Area



2.2.2 Hydrological Resources and Issues

The US Geological Survey has divided Arizona into three hydrologic provinces based on water, geology, and altitude. Most of the Western Region lies in the Basin and Province Range which is defined by broad, gently sloping valleys separated by sharply rising mountain ranges.

Many of the streams and watercourses in Arizona do not contain water year round. The streams that are not perennial are identified as intermittent (flow only part of the year) of ephemeral (flow in response to precipitation). Major perennial streams in the area are the Colorado River and the Bill Williams River.

The demands for water resources in the study area include agriculture, recreation, mining, power generation, and urban uses. Water is considered by policy makers to be the key to environmental and economic health. Availability of future water supply is a major concern, as is water quality. For instance, the allocation of water supply from the Colorado River, the region's primary water source, is a contention amongst neighboring states and amongst the Western Region's users. Further, the quality of Colorado River water is impacted by the river's high sediment content and increasing salinity from upstream uses.[8]

Major Watercourses and Drainage Features

In addition to the Colorado River, other major rivers in the study area are tributaries to the Colorado. They include, among others, the Virgin River, Bill Williams River, Big Sandy River, Santa Maria River, and the Gila River. Primary watersheds include the Virgin River, Colorado, Bill Williams, Colorado/Lower Gila, Lower Gila, and San Simone. Runoff from the region's watersheds collects in the tributaries and eventually reaches the Colorado River. In general, the drainage patterns are to the west or to the south.

To capitalize upon the available surficial water resources, a series of dams and man-made lakes have been created throughout the Western Region, including:

- Alamo Dam (Alamo Lake);
- Hoover Dam (Lake Mead);
- Davis Dam (Lake Mohave);
- Parker Dam (Lake Havasu);
- Glen Canyon Dam (Lake Powell);
- Laguna Diversion Dam (Laguna Reservoir); and
- Imperial Dam (supplying 3 canals).

Flood Hazards

The Federal Emergency Management Agency (FEMA) is responsible for developing Flood Insurance Rate Maps (FIRM) that identify areas that are subject to flooding. The Western Region includes the counties of Mohave, La Paz, and Yuma encompassing several known rivers, streams, creeks, and washes. Areas within these counties are subject to various levels of flooding throughout the year as many of these rivers, streams, creeks, and washes flow either perennially or intermittently. Proposed development within these counties has the potential to be located within identified floodplains and subject to various levels of

[8] Mohave County General Plan. Revised December 5, 2005. County of Mohave, Arizona. p. 35

flooding. Any proposed development within these areas must ensure that proper measures are taken as to not encroach upon known floodplains.

Impaired and Unique Waters

Impaired waters are those waters that do not meet water quality standards per Section 303(d) of the 1972 Clean Water Act. Impaired waters within the Western Region include the following:

- Virgin River, Mohave County – portion in the vicinity of Littlefield, AZ;
- Colorado River, Mohave County – portion between Mohave and Coconino counties and abutting the Hualapai Reservation;
- Colorado River, Mohave County – the portion forming the Arizona/California state border south of Lake Mead in the vicinity of Willow Beach;
- Burro Creek, Mohave County – portion; and
- Gila River, Yuma County – portion north of the I-8 roughly between the US-95 and Wellton.

Sole Source Aquifers

No sole source aquifers, as designated by the U.S. Environmental Protection Agency (EPA), are located within the Western Region.

Drainage Studies

This section summarizes various reports that are considered pertinent to the Western Region. The reports listed below are specific to drainage or have a specific drainage component as part of the identified report. The chronological list of reports excludes general plans, and is not a complete list of all drainage studies undertaken in the region.

1. 16th Street Widening Final Drainage Report Arizona Avenue to Yuma Palms Parkway

   Date Completed: October 2007
   Lead Agency: City of Yuma
   Author: PB Americas, Inc.

   Purpose of Study: The report presents the results of the hydrologic analysis for existing and proposed conditions, including drainage areas and calculated peak flows. The report includes a drainage improvement plan for the proposed improvements.

   Study Area: The project is located on 16th Street between Arizona Avenue and Yuma Palms Parkway in the City of Yuma, Arizona. The section of 16th Street is designated as U.S. Highway 95 (US95), under the jurisdiction of the Arizona Department of Transportation.

2. Initial Design Concept Report I-40 Kingman Crossing Traffic Interchange

   Date Completed: September 2007
   Lead Agency: City of Kingman
   Author: URS Corporation

Purpose of Study: This initial Design Concept Report identifies preliminary offsite and onsite drainage systems and developed alternatives for the Interstate 40 Traffic Interchange on/offsite drainage design, offline detention basin and the offline detention basin.

Study Area: The study area is located on the side of the City of Kingman, east of State Highway 66 (Andy Devine Ave.) and south of the airport.

3. Initial Design Concept Report for US 95 Avenue 9E to Aberdeen Rd

Date completed: April 2001
Lead Agency: Arizona Department of Transportation
Author: A Dames & Moore Group Company

Purpose of Study: Identify improvements to meet Arizona Department of Transportation Policy and Implementation Memorandum No. 91-10 issued February 22, 1993 establishing a design drainage class for each highway in the State Highway System.

Study Area: US95 Avenue 9E to Aberdeen Road

4. Kingman Area Master Drainage Plan

Date Completed: June 1988
Lead Agency: City of Kingman
Author: Boyle Engineering Corporation

Purpose of Study: A design and administrative manual was prepared to fill the need for a uniform basis of design for urban storm water drainage systems in the City of Kingman and surrounding environs.

Study Area: City of Kingman and surrounding environs

5. US 95 Design Concept Report San Luis to 32nd Street

Date Completed: June 1997
Lead Agency: Arizona Department of Transportation
Author: PB Americas, Inc.

Purpose of Study: To improve area drainage issues associated with runoff from US95 and address runoff issues from the mesa east of Somerton to ensure that existing drainage does not mix with the East Main Canal delivery water.

Study Area: The subdivision in San Luis located north of the main drain, east of US 95 and the mesa east of Somerton.

2.2.3 Natural Infrastructure

Natural infrastructure is considered to be those assets of ecological value in our physical environment. These include flora and fauna and the natural resources necessary to sustain them. *Figures 2-4a and 2-4b* provide an overview of natural infrastructure in the Western Region.

Biotic Communities

The term *biotic community* refers to a major group of populations (e.g., natural vegetation) that live within a specific habitat. Climate and elevation are key factors that support biotic communities. The biotic communities encountered within the Western Region are listed below in *Table 2.1*.

Table 2.1 Biotic Communities

Formation	Biotic Community	Brief Description	Percent of Study Area Land
Tropical-Subtropical Desertlands	Arizona Upland Sonoran Desertscrub	Warm desert lacking cold tolerant plant species with a diverse low shrubland of legume trees and many succulents (cacti) within elevations of 500 – 4,500 feet.	22.31%
Cold-Temperate Forests & Woodlands	Great Basin Conifer Woodland	Typical vegetation in this habitat association includes Colorado Pinyon, Oneseed Juniper, and agaves.	6.75%
Cold-Temperate Desertlands	Great Basin Desertscrub	Highest (3,000 – 6,500-ft elevation) and coldest desert that is cold-resistent, shrub-dominated including sagebrush, blackbrush, shadscale and mormon-tea (Utah border)	9.22%
Warm-Temperate Scrublands	Interior Chaparral	Dense shrubland community that is fire-adapted; subset of coastal chaparral	3.09%
Tropical-Subtropical Desertlands	Lower Colorado Sonoran Desertscrub	Characteristic plants include creosote, bursage, saltbush, mesquite and acacia within elevations of 100-3,000 feet.	45.47%
Warm-Temperate Desertlands	Mohave Desertscrub	Located only in the northwest corner of Arizona, and intervenes between the Sonoran and Mohave desertscrubs, thus difficult to distinguish. It occupies mid-elevations on slopes, hillsides, and washes with alluvial soils at elevations of about 4,000 to 5,000 feet. The vegetation is dominated by Creosote Bush (*Larrea tridentata*) and a diverse mixture of other shrubs, cacti, and Joshua	7.14%

		Trees (*Yucca brevifolia*).	
Boreal Forests & Woodlands	Petran Montane Conifer Forest	Mixed conifer and ponderosa pine forests at elevations of 6,000 – 9,500 feet.	0.06%
Cold-Temperate Grasslands	Plains & Great Basin Grassland	Grasses absent of shrubs between 5,000 and 7,000 feet in elevation, situated on open and exposed plans.	4.60%
Warm-Temperate Grasslands	Semidesert Grassland	Grasslands bounded by deserts at lower elevations (3,000 feet) and woodlands at higher elevations (4,500 feet.)	1.35%

Sources: Biotic Communities of the Southwest, University of Utah Press, 1994. University of Arizona, Arizona Soils, 1985.

In the Western Region, the Semidesert Grassland and the Plains and Great Basin Grassland have been identified as priority grasslands by the AGFD and the Nature Conservancy. These grasslands, at risk from natural and human encroachment, are critical to the ecosystem by:

- Purifying water, enriching the soil, sequestering carbon from the atmosphere;
- Providing habitat to pronghorn, prairie dogs, black footed ferrets and burrowing owls;
- Preventing erosion by holding soil in place; and
- Sustaining seeps and springs for wildlife, allowing for infiltration of water into the aquifers, rivers, and streams.[9]

Wildlife

The Western Region is home to a diverse wildlife population commonly including Pronghorn antelope, Desert Bighorn sheep, elk, javalina, mountain lion, desert mule deer, cottontail rabbit, quail, foxes, squirrel, Harris' hawk, black-tailed jackrabbit, Sage thrasher, Townsend's ground squirrel, Gila monster, regal horned lizard, and many more.

Certain wildlife are deemed *special status species* by various natural resource agencies. The United States Fish and Wildlife Service (USFWS) of the US Department of the Interior identifies species according to the Endangered Species Act (ESA) of 1973 as endangered, threatened, proposed, or candidate species. Candidate species are those being considered for addition to the list of threatened or endangered (T&E) species. Candidate species do not have legal protection under the Act, but USFWS recommends that they be considered in the planning process in the event that the status changes to listed prior to completion of a project. The federal status listings include:

LE	Listed Endangered; imminent jeopardy of extinction.
LT	Listed Threatened; imminent jeopardy of becoming endangered.
PDL	Proposed for delisting.

[9] The Importance of Grasslands in Northern Arizona. 2005. Ecological Monitoring and Assessment Program and Foundation (NAU), the Nature Conservancy, and AGFD.

PE Proposed Endangered
PT Proposed Threatened
C Candidate; species for which USFWS has sufficient information on biologogical vulnerability and threats to support proposals to list as Endangered or Threatened under ESA.
SC Species of Concern

In addition to the federal listings, the Arizona Game and Fish Department lists special status species. The status listings are defined as follows:

WSC Wildlife of Special Concern; species whose occurrence in AZ is or may be in jeopardy, or with known or perceived threats or population declines.
S Sensitive; Species classified as sensitive by the Regional Forester when occurring on lands managed by the USDA Forest Service.
HS Highly Safeguarded; Arizona native plants whose prospects for survival in the state are in jeopardy or are in danger of extinction, or are likely to become so in the foreseeable future as described by the AZ Native Plant Law; No collection allowed.
SR Salvage Restricted; Arizona native plants not included in the Highly Safeguarded category, but that have a high potential for theft or vandalism, as described by the AZ Native Plant Law; Collection only with permit.

Table 2.2 depicts the listed special status species by the Arizona Game and Fish Department for the Western Region.

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
Birds							
Bald Eagle	Haliaeetus leucocephalus (wintering pop.)	LT, PDL		S	WSC	Large trees or cliffs near water (reservoirs, rivers, and streams) with abundant prey.	HIGH
California Black Rail	Laterallus jamaicensis coturniculus	SC		S	WSC	Chiefly, tidal salt marshes, where associated characteristically with heavy growths of pickle weed, (Salicornia). Also occurs in brackish and fresh-water marshes, all at low elevations.	LOW
Least Bittern	Ixobrychus exilis				WSC	Breeding: freshwater and brackish marshes with dense, tall growths of aquatic or semiaquatic vegetation	MEDIUM

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
						(particularly Typha, Carex, Scirpus, Sagittaria, or Myriscus) interspersed with clumps of woody vegetation and open water. Occasionally in salt marshes and mangrove swamps. Winter: occurs mainly in brackish and saline swamps and marshes	
American Peregrine Falcon	Falco peregrinus anatum	SC		S	WSC	Found wherever sufficient prey is found near cliffs. Optimum peregrine habitat is generally considered to be steep, sheer cliffs overlooking woodlands, riparian areas or other habitats supporting avian prey species in abundance.	HIGH
Cactus Ferruginous Pygmy-owl	Glaucidium brasilianum cactorum	SC			WSC	Streamside cottonwoods and willows and adjacent mesquite bosques, usually with saguaros on nearby slopes. Less often found along dry washes where large mesquite, paloverde, ironwood, and saguaro thrive.	LOW
California Black Rail	Laterallus jamaicensis coturniculus	SC	S	S	WSC	Chiefly, tidal salt marshes, where associated characteristically with heavy growths of pickle weed, (Salicornia). Also occurs in brackish and fresh-water marshes, all at low elevations.	LOW
Clark's Grebe	Aechmophorus clarkii				WSC	Marshes, lakes and bays. Nests among tall plants growing in water on edge of large areas of open water.	MEDIUM
Common Black-Hawk	Buteogallus anthracinus			S	WSC	Generally mature, relatively undisturbed habitat of coastal lowlands of mixed savannah, dunes, ponds, lagoons and grasslands with a permanent source of water nearby.	MEDIUM
Ferruginous Hawk	Buteo regalis	SC			WSC	Open scrublands, woodlands,	HIGH

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
						grasslands, and Semidesert Grassland.	
Great Egret	Ardea alba				WSC	Marshes, swampy woods, tidal estuaries, lagoons, mangroves, streams, lakes, rivers and ponds; also in fields and meadows.	MEDIUM
Loggerhead Shrike	Lanius ludovicianus	SC				Open country with scattered trees and shrubs, savanna, desert scrub and occasionally open woodland. Often found on poles, wires or fence posts.	HIGH
Mexican Spotted Owl	Strix occidentalis lucida	LT		S	WSC	Nests in canyons and dense forests with multi-layered foliage structure	MEDIUM
Northern Goshawk	Accipiter gentilis	SC		S	WSC	Wide variety of forest types including deciduous, coniferous and mixed forests.	MEDIUM
Snowy Egret	Egretta thula				WSC	Marshes, lakes, ponds, lagoons, mangroves and shallow coastal habitats.	MEDIUM
Southwestern Willow Flycatcher	Empidonax traillii extimus	LE		S	WSC	Cottonwood/willow and tamarisk vegetation communities along rivers and streams	LOW
Western Burrowing Owl	Athene cunicularia hypugaea	SC	S			Variable in open, well-drained grasslands, steppes, deserts, prairies, and agricultural lands, often associated with burrowing mammals. Sometimes in open areas such as vacant lots near human habitation, golf courses, or airports.	LOW
Western Yellow-billed Cuckoo	Coccyzus americanus occidentalis	C		S	WSC	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).	MEDIUM
White-faced Ibis	Plegadis chihi	SC				Primarily freshwater marshes, swamps, ponds and rivers especially cattail and bulrush marshes.	LOW
Yuma Clapper Rail	Rallus longirostris yumanensis	LE			WSC	Fresh water and brackish marshes.	MEDIUM

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
Fish							
Virgin Spinedace	Lepidomeda mollispinis mollispinis	SC			WSC	Small and medium sized streams.	LOW
Woundfin	Plagopterus argentissimus	LE, XN			WSC	Occupies main channel of seasonally swift, highly turbid, and extremely warm streams, with sandy, constantly shifting bottoms. Young seek quiet backwaters with sandy substrates.	LOW
Bonytail Chub	Gila elegans	LE			WSC	Warm, swift, turbid mainstem rivers of the Colorado River basin, reservoirs in lower basin.	LOW
Desert Pupfish	Cyprinodon macularius	LE			WSC	Shallow springs, small streams, and marshes.	LOW
Desert Sucker	Catostomus clarki	SC	S			Rapids and flowing pools of streams and rivers primarily over bottoms of gravel-rubble with sandy silt in the interstices.	MEDIUM
Flannelmouth Sucker	Catostomus latipinnis	SC	S	S		Primarily restricted to large and moderately large rivers, larvae inhabit shallow, slow-flowing near-shore areas.	LOW
Gila Longfin Dace	Agosia chrysogaster chrysogaster	SC	S			Wide ranging, from intermittent hot low-desert streams to clear and cool brooks at higher elevations. They tend to occupy relatively small or medium size streams, with sandy or gravely bottoms; eddies, pools near overhanging banks or other cover.	MEDIUM
Gila Topminnow	Poeciliopsis occidentalis occidentalis	LE			WSC	Small streams, springs, and cienegas vegetated shallows.	LOW
Humpback Chub	Gila cypha	LE			WSC	Turbulent, high gradient, canyon-bound reaches of large rivers in the Colorado River Basin.	LOW
Razorback Sucker	Xyrauchen texanus	LE		S	WSC	Riverine and lacustribe areas, generally not in fast moving water and may use backwaters.	LOW
Roundtail Chub	Gila robusta	SC		S	WSC	Cool to warm water, mid-elevation streams and rivers where	LOW

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
						typical adult microhabitat consists of pools up to 6.6 feet (2.0 m).	
Sonora Sucker	Catostomus insignis	SC	S			Variety of habitats from warm water rivers to trout streams with an affinity for gravelly or rocky pools, or at least for relatively deep, quiet waters.	MEDIUM
Speckled Dace	Rhinichthys osculus	SC	S			A bottom dweller, found in rocky riffles, runs, and pools of headwaters, creeks, and small to medium rivers: rarely in lakes.	MEDIUM
Virgin River Chub	Gila seminuda	LE		S	WSC	Deep swift waters but not turbulent sand and gravel with boulders or in-stream cover.	LOW
Amphibians							
Arizona Toad	Bufo microscaphus	SC		S		Rocky streams and canyons in the pine-oak belt. Upland desert and evergreen woodland.	MEDIUM
Lowland Leopard Frog	Rana yavapaiensis	SC		S	WSC	Aquatic systems in desert grasslands to pinyon-juniper.	MEDIUM
Northern Leopard Frog	Rana pipiens			S	WSC	Variety of habitats including grassland, brush land, woodland, and forest ranging high into mountains, usually in permanent waters with rooted aquatic vegetation. Also frequents ponds, canals, marshes, springs, and streams.	LOW
Relict Leopard Frog	Rana onca	C		S	WSC	Permanent streams, springs, and spring-fed wetlands below approximately 600 m (1,968 ft).	LOW
Reptiles							
Banded Gila Monster	Heloderma suspectum cinctum	SC	S			Primarily in Sonoran Desert and extreme western edge of Mohave Desert. Most common in undulating rocky foothills, bajadas and canyons.	HIGH
Mohave Desert Tortoise	Gopherus agassizii (Mohave Population)	LT			WSC	Mohave desertscrub north and west of the Colorado River	LOW

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
Sonoran Desert Tortoise	Gopherus agassizii (Sonoran Population)	SC			WSC	Primarily rocky slopes and bajadas of Mojave and Sonoran Desertscrub. Uses Caliche caves in incised, cut banks of washes for shelter sites, especially in the Lower Colorado River Valley subdivision.	HIGH
Arizona Chuckwalla	Sauromalus ater (Arizona population)	SC	S			Predominantly found near cliffs, boulders or rocky slopes. Also, rocky desert, lava flows, hillsides, and outcrops.	HIGH
Arizona Night Lizard	Xantusia arizonae			S		Arid and semi-arid granite outcroppings and rocky areas, among fallen leaves, trunks of agaves, rocks or under vegetative debris.	LOW
Desert Rosy Boa	Charina trivirgata gracia	SC	S	S		Usually found on or near rocky mountains or hillsides in desert ranges, where they inhabit the granite rock outcroppings that absorb the suns rays providing heat and cover.	MEDIUM
Flat-tailed Horned Lizard	Phrynosoma mcallii	SC			WSC	Fine packed sand or pavement, overlain with loose, fine sand in areas that are sparse or lacking in vegetation.	LOW
Grand Canyon Rattlesnake	Crotalus oreganus abyssus			S		Steep, rocky canyon slopes where cover is easily had from various outcroppings along the canyon walls.	HIGH
Mojave Fringe-toed Lizard	Uma scoparia				WSC	Restricted to fine, windblown sands and dunes, flats, riverbanks and washes of very arid desert, with low-growing vegetation. These areas are generally within the creosote scrub desert habitat.	LOW
Utah Mountain Kingsnake	Lampropeltis pyromelana infralabialis			S		Pinyon-juniper woodland and chaparral to the pine-fir belt typically near water and rocky areas.	LOW

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
Yuman Desert Fringe-toed Lizard	Uma rufopunctata	SC		S	WSC	Restricted to sparsely vegetated fine, windblown sand dunes, flats, riverbanks, and washes of very arid desert.	LOW
Invertebrates							
Desert Springsnail	Pyrgulopsis deserta		S	S		Unknown	LOW
Grand Wash Springsnail	Pyrgulopsis bacchus	SC	S	S		Occurs within the aquatic community associated with spring flows at elevations of 1,570 - 1,720 ft. (479 - 525 m)	LOW
Kingman Springsnail	Pyrgulopsis conica	SC	S	S		Elevations of 2,640 - 3,600 ft. (805 - 1,098 m)	LOW
Maricopa Tiger Beetle	Cicindela oregona maricopa	SC	S	S		Several different habitats within range, most commonly on sandy stream banks. Most easily located along stream drainages in the Central Highlands.	MEDIUM
Mammals							
California Leaf-nosed Bat	Macrotus californicus	SC			WSC	Mostly found in the Sonoran Desertscrub. Primarily roost in mines, caves, and rock shelters.	MEDIUM
Lesser Long-nosed Bat	Leptonycteris curasoae yerbabuenae	LE		S	WSC	Desert grassland and shrubland up to oak transition. Roosts in caves, mine tunnels, and occasionally in old buildings	LOW
Pale Townsend's Big-eared Bat	Corynorhinus townsendii pallescens	SC				Summer day roosts in caves and mines from Desertscrub up to woodlands and coniferous forests. Night roosts often in abandoned buildings. Winter hibernation in cold caves, lava tubes, and mines mostly in uplands and mountains in the vicinity of the Grand Canyon.	MEDIUM
Western Yellow Bat	Lasiurus xanthinus				WSC	Not clearly understood; may be associated with Washington fan palm trees, other palms or other leafy vegetation	LOW

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
						such as sycamores, hackberries, and cottonwoods which provide roost sites.	
Allen's Big-eared Bat	Idionycteris phyllotis	SC	S			Most often in ponderosa pine, pinyon-juniper, Mexican woodland, and riparian areas of sycamores, cottonwoods, and willows.	MEDIUM
Arizona Myotis	Myotis occultus	SC	S			Common to ponderosa pine and oak-pine woodland near water. Also noted along permanent water or in riparian forest in some desert areas such as along the lower Colorado and Verde rivers.	MEDIUM
Big Free-tailed Bat	Nyctinomops macrotis	SC	S			Rugged, rocky country, and riparian areas. Roosts in buildings, caves and occasionally in holes in trees.	MEDIUM
Cave Myotis	Myotis velifer	SC	S			Desertscrub of creosote, brittlebush, palo verde and cacti. Roosts in caves, tunnels, mineshafts, and under bridges.	MEDIUM
Fringed Myotis	Myotis thysanodes	SC	S			Primarily in middle elevation habitats ranging from deserts, grasslands, and woodlands [4,000 - 8,437 feet (1,220 - 2,571 m)].	MEDIUM
Greater Western Bonneted Bat	Eumops perotis californicus	SC				Lower and upper Sonoran Desertscrub near cliffs, preferring the rugged rocky canyons with abundant crevices.	MEDIUM
Hualapai Mexican Vole	Microtus mexicanus hualpaiensis	LE			WSC	Grass/forb habitats in ponderosa pine, typically near water.	LOW
Long-legged Myotis	Myotis volans	SC	S			Primarily coniferous forest. May also be found in riparian and desert habitats.	MEDIUM
Pocketed Free-tailed Bat	Nyctinomops femorosaccus		S			Arid lower elevations usually around high cliffs and rugged rock outcrops.	MEDIUM
Sonoran Pronghorn	Antilocapra americana	LE		S	WSC	Broad alluvial valleys separated by block-	LOW

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
	sonoriensis					faulted mountains in Basin and Range province.	
Spotted Bat	Euderma maculatum	SC			WSC	Varied. Generally dry, rough Desertscrub. Also, ponderosa pine forest, low desert, high desert and riparian habitats, and conifer forests.	LOW
Western Red Bat	Lasiurus blossevillii				WSC	Riparian and other wooded areas.	MEDIUM
Western Small-footed Myotis	Myotis ciliolabrum	SC	S			Generally inhabits desert, chaparral, western coniferous forest, badland and semiarid habitats, more mesic habitats in southern part of range. Also, deserts, chaparral, riparian areas and oak-juniper forests. Microhabitat: hibernates in caves and old mines; summers in crevices, cracks, holes, snags, hollow trees, under rocks, and in buildings.	MEDIUM
Yuma Hispid Cotton Rat	Sigmodon hispidus eremicus	SC				Dense grassy areas such as fields and along roadside edges, brushy or weedy areas among weeds and cattails along the Colorado River and streams or ponds, in irrigated fields, and Desert scrub.	LOW
Yuma Myotis	Myotis yumanensis	SC				Wide variety of upland and lowland habitats, including riparian, Desertscrub, moist woodlands and forests. Prefers cliffs and rocky walls near water.	MEDIUM
Plants							
Aquarius Milkvetch	Astragalus newberryi var. aquarii		S			Sonoran Desertscrub located on seraphic islands in limey clay soil in elevations 2,000 - 2,600 ft (610-793 m).	LOW
California Barrel Cactus	Ferocactus cylindraceus var. cylindraceus				SR	Gravelly or rocky hillsides, canyon walls, alluvial fans, and wash margins in the Mohave and Sonoran deserts.	MEDIUM

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
Clustered Barrel Cactus	Echinocactus polycephalus var. polycephalus				SR	Rocky flats and washes, bajadas, rock ledges, and rocky, gravely slopes in the driest parts of the Sonoran and Mohave deserts.	LOW
Dune Spurge	Euphorbia platysperma	SC				Sandy soils in dune habitats below 500 ft (153 m).	LOW
Dune Sunflower	Helianthus niveus ssp. tephrodes	SC				Sand dunes or sandy flats around 300 ft. (92 m).	LOW
Freckled Milk-vetch	Astragalus lentiginosus var. ambiguus	SC				Open hillsides on limestone or granite in elevation of 4,000 to 4,800 ft. (1220-1464 m).	LOW
Grand Canyon Cottontop Cactus	Echinocactus polycephalus var. xeranthemoides				SR	Rocky hills, slopes, and ledges of canyons, and in Great Basin and Mohave Desertscrub.	LOW
Grand Canyon Evening-primrose	Camissonia specuicola ssp. hesperia	SC				Scattered on open slopes and rock crevices, and found in washes and dry streambeds, often on limestone.	LOW
Kearney Sumac	Rhus kearneyi		S		SR	Arid slopes, along canyons and drainages in elevations of 1,000 to 2,000 feet (305-610 m).	LOW
Sand Food	Pholisma sonorae	SC	S		HS	Drifting sandy soil and other sandy areas in low desert below 500 ft. elevation.	LOW
Senita	Lophocereus schottii				SR	Unavailable	LOW
Straw-top Cholla	Opuntia echinocarpa				SR	Unavailable	HIGH
Virgin Thistle	Cirsium virginense	SC			SR	Alkaline seeps, washes, and stream terraces; occasionally in hanging gardens.	LOW
Aravaipa Wood Fern	Thelypteris puberula var. sonorensis		S			In moist soil of boulder shade in mesic canyons, on riverbanks, seepage areas, and meadow habitats at 2,220 - 4,500 feet (677 - 1373 m).	LOW
Arizona Cliff Rose	Purshia subintegra	LE			HS	White limestone soils derived from tertiary lakebed deposits.	LOW
Atwood Wild-buckwheat	Eriogonum thompsoniae var. atwoodii	SC		S	SR	Usually along small drainages in red clay/gypsum hills in elevations of 4,400 -	LOW

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
						4,700 ft (1342 -1434 m).	
Beaver Dam Milk-vetch	Astragalus geyeri var. triquetrus	SC	S			Limited to washes and small pockets of wind-deposited sand with sandy soils formed from sedimentary formations adjacent to Lake Mead and its tributary valleys. *This species is an ephemeral annual that is not seen for years at a time.*	LOW
Beaver Dam Scurf Pea	Pediomelum castoreum	SC				Desert shrub in sand or sandy gravel in open areas and on road cuts in elevations from 1,750 – 3,920 ft. (534-1196 m).	LOW
Bigelow Onion	Allium bigelovii				SR	Open, dry rocky soil in grassland, open chaparral, and desertscrub communities on gentle slopes between 2000 – 5000 feet.	LOW
Blackrock Ground Daisy	Townsendia smithii		S			Grows on basalt-derived soils, 5,750 - 7,803 ft (1754-2380 m).	LOW
Blue Diamond Cholla	Opuntia whipplei var. multigeniculata	SC			SR	Unavailable	LOW
Blue Sand Lily	Triteleiopsis palmeri		S		SR	Sandy areas (dunes) in low desert.	LOW
Broadleaf Lupine	Lupinus latifolius ssp. leucanthus			S		Along streams and moist soil of dry stream beds, in oak-cottonwood, mixed shrub, and ponderosa pine forest communities.	LOW
California Fan Palm	Washingtonia filifera				SR	Unavailable	LOW
Cerbat Beardtongue	Penstemon bicolor ssp. roseus	SC	S		SR	Gravel washes, disturbed roadsides, outwash fans, and plains at 1,970-5,480 feet (600-1,670 m).	LOW
Diamond Butte Milkvetch	Astragalus toanus var. scidulus		S			Base of buttes with mixed Desertscrub and scattered juniper and pinyon at 4,900 - 5,400 ft (1495-1647 m).	LOW
Fickeisen Plains Cactus	Pediocactus peeblesianus var. fickeiseniae	C		S	HS	Exposed layers of Kaibab limestone on canyon margins or hills of Navajoan	LOW

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
						Desert.	
Flannel Bush	Fremontodendron californicum		S		SR	Well-drained rocky hillsides and ridges, in chaparral and oak/pine woodland, and usually on dry, north slopes in canyons.	LOW
Gander's Cryptantha	Cryptantha ganderi	SC				Sandy soil in desert dunes and Sonoran Desertscrub.	LOW
Golden Suncup	Camissonia brevipes	SC				Unavailable	LOW
Grand Canyon Beavertail Cactus	Opuntia basilaris var. longiareolata				SR	Unavailable	LOW
Grand Canyon Flaveria	Flaveria mcdougallii				SR	Located in hanging gardens or terrace ledges in perennial alkaline or saline seeps.	LOW
Grand Canyon Rose	Rosa stellata ssp. abyssa	SC	S	S	SR	On or near canyon rims or the tops of cliffs at the edges of mesas or plateaus, along low ledges at depressions caused by breccia pipes.	LOW
Gumbo Milk-vetch	Astragalus ampullarius	SC		S		Gumbo clay knolls derived from the Chinle shale formations (and other formations) in pinyon-juniper, mixed desert shrub at 3,200 - 5,400 feet (970-1650 m).	LOW
Holmgren (Paradox) Milk-vetch	Astragalus holmgreniorum	LE			HS	Just under limestone ridges and along draws in gravelly clay hills.	LOW
Hualapai Milkwort	Polygala rusbyi			S		Unavailable	MEDIUM
Intermediate Fishhook Cactus	Sclerocactus parviflorus ssp. intermedius				SR	Unavailable	LOW
Jones' Cycladenia	Cycladenia humilis var. jonesii	LT			HS	Gypsiferous, sandy silty soil on clay hills that form the steep side slopes and bases of mesas in canyons within Great Basin Desertscrub or Juniper-Pinyon Woodland communities.	LOW
Kane Scurf-pea	Pediomelum epipsilum	SC				Unavailable	LOW
Kingman's Prickly-pear	Opuntia superbospina				SR	Unavailable	LOW

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
Kofa Barberry	Berberis harrisoniana		S			Inhabits the bottoms of deep, shady, rocky canyons at 2,200 – 3,500 ft (760-1070 m).	LOW
Las Vegas Bearpoppy	Arctomecon californica	SC			SR	Barren, gravelly desert flats, shale, hummocks, and slopes in the creosote bush zone, at 1,246 – 4,000 ft. (380-1220 m).	LOW
Missouri Corycactus	Coryphantha missouriensis				SR	Unavailable	MEDIUM
Morton Wild-buckwheat	Eriogonum mortonianum	SC		S	SR	Usually along small drainages in red clay hills of very shallow gypseous soils on sandstone and shale uplands.	LOW
Mt. Trumbull Beardtongue	Penstemon distans	SC	S	S	SR	Gravelly Kaibab limestone on mesa tops in pinyon-juniper woodlands.	LOW
Navajo Bridge Cactus	Opuntia nicholii				SR	Unavailable	HIGH
Our Lords Candle	Yucca whipplei				SR	Unavailable	MEDIUM
Parish Onion	Allium parishii		S		SR	Open rocky and sandy lopes in the Mohave Desert, including the desert mountain ranges.	LOW
Parish's Phacelia	Phacelia parishii		S			Generally alkaline playas in the desert.	LOW
Scaly Sandplant	Pholisma arenarium		S		HS	Coastal strand; sand dunes.	LOW
Schott Wire Lettuce	Stephanomeria schottii		S			Semi-stabilized sand dunes with creosote, white bursage, big galleta grass, and many other wildflowers.	LOW
September 11 Stickleaf	Mentzelia memorabalis		S			Dry gypsum-clay outcrops with sparse vegetation.	LOW
Sheep Range Beardtongue	Penstemon petiolatus		S			Unavailable	LOW
Siler Pincushion Cactus	Pediocactus sileri	LT	S		HS	Desertscrub transitional areas of Navajo, sagebrush and Mohave Deserts	MEDIUM
Silverleaf Sunray	Enceliopsis argophylla		S			Warm desert shrub community on dry slopes and sandy washes.	LOW
Slender Evening-primrose	Camissonia exilis	SC			SR	Warm desert shrub communities restricted to calcium-rich deposits on small islands of sandy-	LOW

Table 2.2 Listed Species - Known or Potentially Occurring

Common Name	Scientific Name	Status				Habitat Consideration	Potential Occurrence in Project Study Area
		USFWS	BLM	USFS	State		
						textured saline soil, apparently in association with subsurface seepage.	
Sticky Buckwheat	Eriogonum viscidulum	SC	S			Low dunes, washes, and sandy flats and slopes, in saltbush and creosote bush communities within Mohave desertscrub.	LOW
Straw-top Cholla	Opuntia echinocarpa				SR	Unavailable	HIGH
Three Hearts	Tricardia watsonii		S			Dry, rocky canyon and slopes in desert ranges. Generally, on gravelly slopes and sandy loam flats in Joshua tree woodland and creosote bush scrub.	LOW
Varied Fishhook Cactus	Mammillaria viridiflora				SR	Unavailable	HIGH
Viviparous Foxtail Cactus	Escobaria vivipara var. rosea				SR	Dry, rocky limestone slopes, volcanic hills, and gravelly areas in woodland or desert mountains.	MEDIUM
Whipple Cholla	Opuntia whipplei var. whipplei				SR	Unavailable	LOW
White-margined Penstemon	Penstemon albomarginatus	SC	S		SR	Coarse sandy and silty soil in Mohave Desertscrub communities.	LOW
Yellow Beavertail	Opuntia basilaris var. aurea				SR	Unavailable	MEDIUM

Source: Arizona Game and Fish Department, Heritage Data Management System. February 2008.

Note: The potential for occurrence classifications were correlated with the AGFD's State Ranking system. "Low" potential = "S1," "S2," "SH," or "S2S3" rank; "Medium" potential = "S3" or "S3S4" rank; "High" potential = "S4" or "S5" rank. Ranking definitions are viewable at http://www.azgfd.gov/w_c/edits/hdms_ranking_definitions.shtml.

Special Status Species and Critical Habitats

Critical habitat is defined in section 3(5)(A) of the Endangered Species Act (ESA) of 1973 and includes:

- Areas within a listed species' current (at time of listing) range that contain the physical or biological features that are essential to that species' conservation or that for some reason require special management; and
- Areas outside the species' current range that the secretary determines to be essential to its conservation.

ESA special status species and their known critical habitats[10] in the Western Region include:

- Bonytail chub (*Gila elegans*)
  Lake Mohave, Bill Williams River National Wildlife Refuge
- Razorback sucker (*Xyrauchen texanus*)
  Bill Williams River Wildlife Refuge
- Virgin River chub (*Gila robusta seminude*)
  Virgin River
- Humpback chub (*Gila cypha*)
  Bill Williams River Wildlife Refuge and portions of the mainstream Colorado River four of its tributaries: Green, Yampa, White, and Little Colorado rivers.
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
  The Lower Colorado River up to and including the full-pool elevations of Lakes Mead, Mohave, and Havasu, and the historical floodplain of the Colorado River from Lake Mead to the southerly International Border with Mexico in La Paz, Mohave, and Yuma counties, Arizona.
- Mexican spotted owl (*Strix occidentalis lucida*)
  Vicinity of the Grand Canyon
- Desert tortoise (*Gopherus agassizii*)
  Cibola National Wildlife Refuge and Imperial National Wildlife Refuge
- Woundfin (*Plagopterus argentissimus*)
  Virgin River

In addition, the Kofa National Wildlife Refuge is critical and essential to the health of desert bighorn sheep in the southwestern United States. Further, the endangered Californian condor is undergoing reintroduction efforts in northern Arizona, primarily near the Vermilion cliffs and Grand Canyon.

Wildlife Linkages

The Arizona Wildlife Linkages Workgroup (AWLW), a collaborative effort between public and private organizations[11] to address habitat fragmentation throughout the state, identified potential wildlife linkage zones. The mission of the AWLW is "to identify and promote wildlife habitat connectivity using a collaborative, science based effort to provide safe passage for people and wildlife." The zones identify opportunities to both prevent loss of wildlife connectivity and create accommodations to reestablish connectivity. Of the 153 linkage zones identified statewide, approximately 54 are located within the Western Region. Many of these zones intersect with major transportation corridors, including:

- Interstate 15;
- State Route 389;
- US Route 93;
- US Route 60;
- Interstate 40;
- Interstate 10;
- Interstate 8;

[10] US Fish and Wildlife Service: Endangered Species Program. Viewable at http://www.fws.gov/endangered/listing/index.html.

[11] AWLW consists of ADOT, FHWA, AGFD, BLM, Northern Arizona University (NAU), the Sky Island Alliance, USDA Forest Service, USFWS, and the Wildlands Project. For more information on the AWLW, visit http://www.dot.state.az.us/Highways/OES/AZ_WildLife_Linkages/workgroup.asp.

- State Route 95; and
- State Route 72.

Conservation Areas

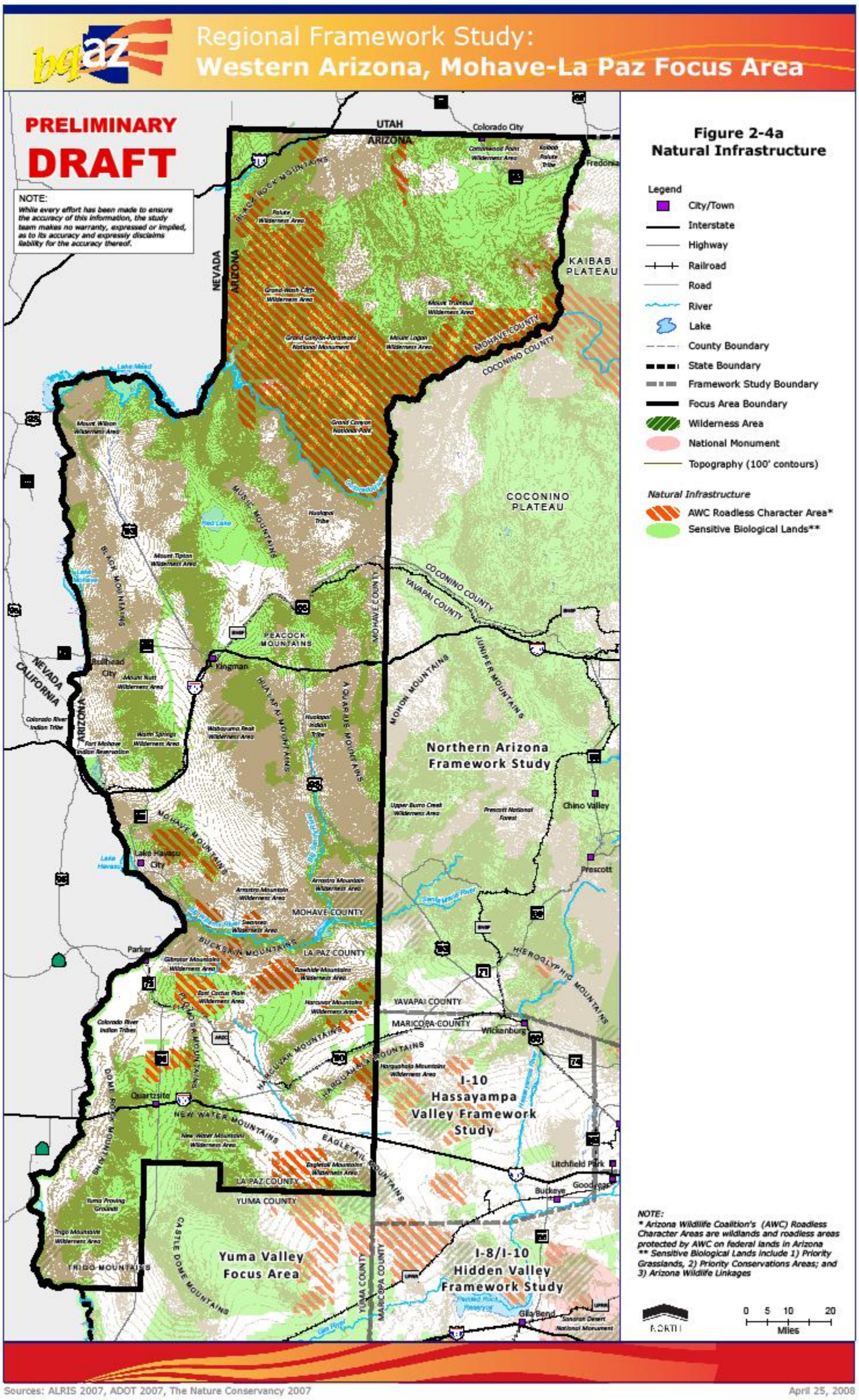
The National Wildlife Refuge System is a unique system of lands dedicated to preserving a rich quality of life for Americans by protecting their wildlife heritage. In the Southwest, national wildlife refuges protect some of the most varied wildlife and spectacular landscapes found anywhere in the world. Wildlife Refuges in Western Arizona include:

- Havasu Wildlife Refuge;
- Bill Williams River Wildlife Refuge;
- Cibola Wildlife Refuge;
- Kofa Wildlife Refuge; and
- Imperial Wildlife Refuge.

Wilderness areas are service land designated by Congress to be managed as a unit of the National Wilderness Preservation System, in accordance with the terms of the Wilderness Act of 1964. Wilderness areas are established within national wildlife refuges. The wilderness areas in Western Arizona are generally depicted on *Figures 2-4a and 2-4b*. There are 19 wilderness areas in the study area including:

- Arrastra Mountain Wilderness;
- Aubrey Peak Wilderness;
- Mount Nutt Wilderness;
- Mount Tipton Wilderness;
- Mount Wilson Wilderness;
- Tres Alamos Wilderness;
- Upper Burro Creek Wilderness;
- Wabayuma Peak Wilderness;
- Warm Springs Wilderness;
- Eagletail Mountains Wilderness;
- Muggins Mountains Wilderness;
- New Water Mountains Wilderness;
- Trigo Mountains Wilderness;
- Cactus Plain Wilderness Study Area;
- East Cactus Plain Wilderness;
- Gibraltar Mountain Wilderness;
- Harcuvar Mountains Wilderness;
- Harquahala Mountains Wilderness;
- Rawhide Mountains Wilderness: and
- Swansea Wilderness.

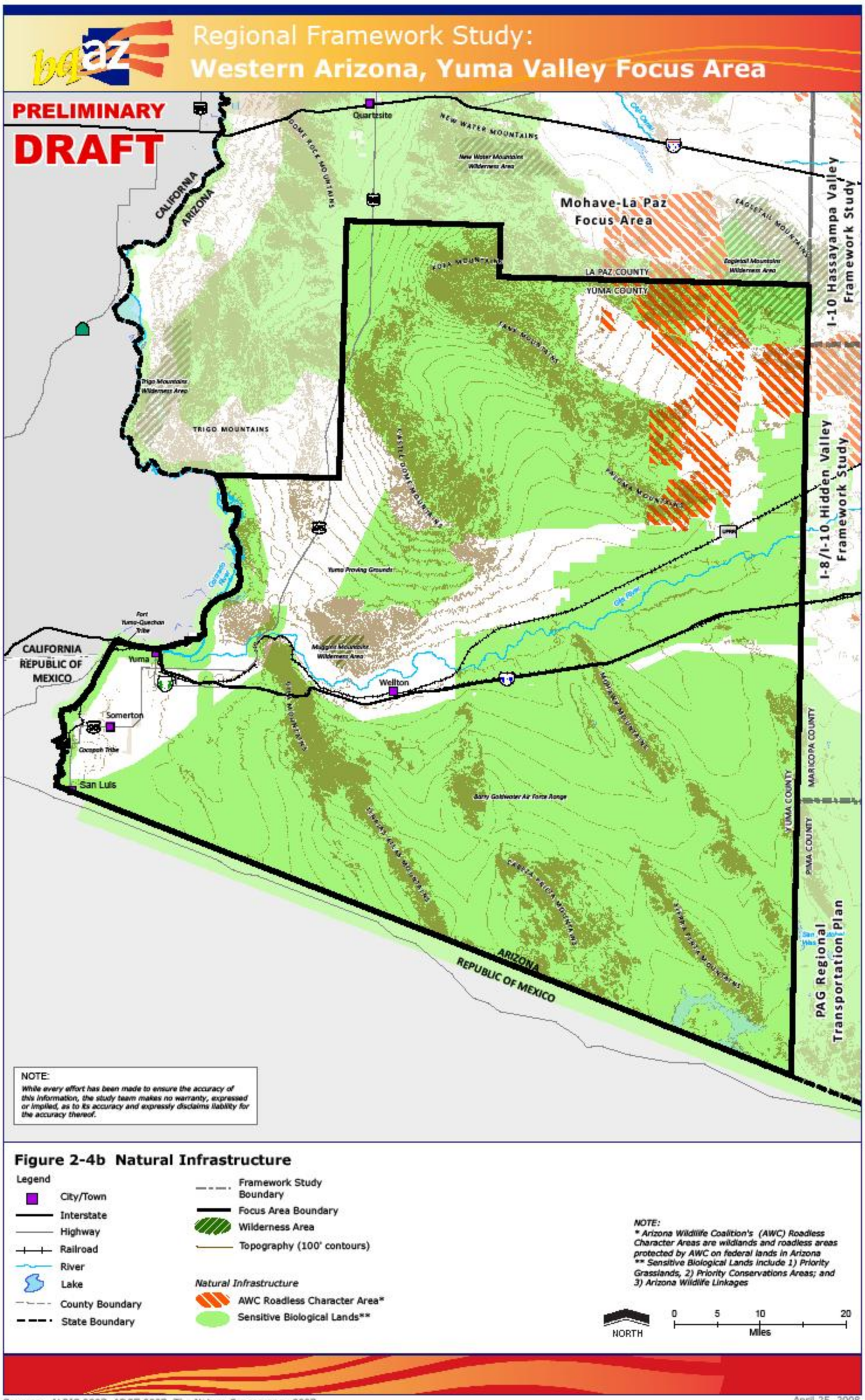
Figure 2-4a Natural Infrastructure Mohave-La Paz Focus Area



Sources: ALRIS 2007, ADOT 2007, The Nature Conservancy 2007

April 25, 2008

Figure 2-4b Natural Infrastructure Yuma Focus Area



2.2.4 Cultural Resources

Cultural resources are remnants of the past valued and studied by archaeologists to answer questions about the history of the earth and its inhabitants. These include historic or prehistoric buildings, petroglyphs, artifacts, and other physical evidence of past societies and cultures.

Prehistory and History

The Paleo-Indian Clovis people, the earliest known settlers of Arizona, arrived in the State at least 12,000 years ago near the end of the Pleistocene period (the Ice Age). The climate was cooler and wetter than the present, and Arizona was populated by huge animals such as mammoths. By 6,000 B.C., warmer and drier climatic conditions contributed to the extinction of the Pleistocene megafauna, and the people changed their way of life. They became known as the Archaic people. Approximately 2,000 years ago, many people had settled into villages and relied on stored foods during the winter.[12] The American Indian archaic culture eventually evolved into several major prehistoric archaeological culture areas in the American Southwest and Northern Mexico. Of these, the Anasazi and Patayan settled within the Western Region. The Anasazi emerged around 1200 B.C. stretching from the Four Corners area into the plateaus of what is now northern Mohave County, and the Patayan occupied the Lower Colorado River and the Lower Gila River valleys from A.D. 700-1550.

By the late 13th century, these prehistoric peoples appeared to have moved on likely due to drought and warfare. Other cultures immigrated to the region, including the Piaute, Cerbat (Hualapai), Mohave, Chemehuevi, Hopi, and Navajo.

The 16th and 17th centuries witnessed the influx into Arizona of the Spanish expeditions. The Spaniards established missions, and introduced European livestock and crops to the Indian rancherias.

In the mid-1820's, Anglo-American fur trappers, known as "mountain men," entered Arizona and began trapping the Gila River. The United States acquired what is now Arizona through the war with Mexico in 1848 and the Gadsden Purchase in 1854. With them, an array of American explorers and surveyors entered the Territory of Arizona, prompting clashes with the natives. Approximately three dozen military camps and forts were established and used in Arizona between 1865 and 1920.[13]

Arizona became a magnet for miners following the California gold rush. The population of Arizona doubled between 1860 and 1864, then doubled again by 1870 due to mining. By 1880, one out of five male workers in the Territory was a miner. Silver initially dominated production in the beginning, but was overtaken by copper mining by the late 1800s. With the mining exploits came the settlement of Arizona's towns. Arizona achieved statehood February 14, 1912.

Listed Historic and Prehistoric Resources

[12] "Historic Arizona," Bureau of Land Management. Viewable at http://www.blm.gov/az/cultural/hist_az.htm.

[13] ibid.

The Western Region has numerous documented cultural resources. As indicated in *Figures 2-5a* and *2-5b*, the potential to encounter recorded cultural resources in 640-acre sections are identified. The historic district, trail, and site listings provided below are a representative sample of cultural resources to be encountered within the Western Region, and are not a complete inventory.

A historic district is a group of buildings, properties, or sites that have been designated as historically or architecturally significant. The National Register of Historic Places (NHRP) lists several historic districts within the Western Region (refer to *Figures 2-5a* and *2-5b*), including:

- Grand Wash Archeological District;
- Kingman Commercial Historic District;
- Pipe Spring National Monument;
- Pipe Spring National Monument Historic District;
- Harquahala Mountain Smithsonian Solar Observatory Historic District;
- Ripley Intaglios;
- Brinley Avenue Historic District;
- Sears Point Archaeological District;
- Yuma Century Heights Conservancy Residential Historic District;
- Yuma Crossing and Associated Sites; and
- Yuma Main Street Historic District.

Historic trails commemorate historic (and prehistoric) routes of travel that are locally or nationally significant. The following are a list of historic trails within the Western area (refer to *Figures 2-5a* and *2-5b*):

- Anza National Historic Trail;
- Dominguez & Escalante Historic Trail;
- Honeymoon Trail;
- Jedediah Smith Historic Trail;
- Old Mormon Wagon Trail;
- Old Spanish Historic Trail;
- Paiute Trail; and
- Temple Historic Trail.

There are numerous historic and prehistoric sites throughout the study area, including:

- Eagletail Petroglyph Site;
- Northern Avenue Petroglyph Site;
- Sears Point prehistoric cultural ;
- Gold King Mansion;
- Swansea Historic Townsite;
- Yuma Crossing State Historic Park; and
- Yuma Quartermaster Depot State Historic Park.

Figure 2-5a Cultural Resources Mohave-La Paz Focus Area

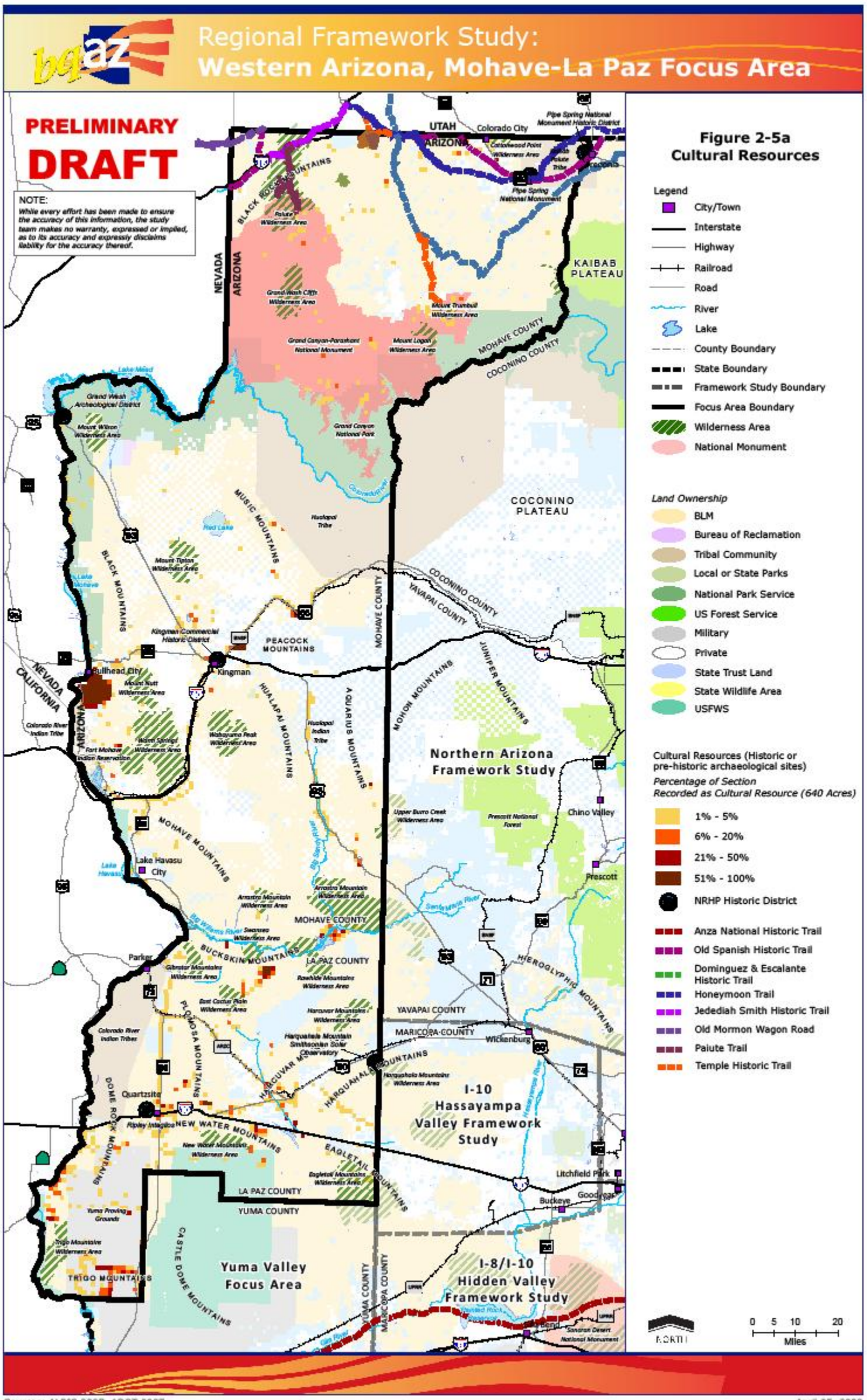
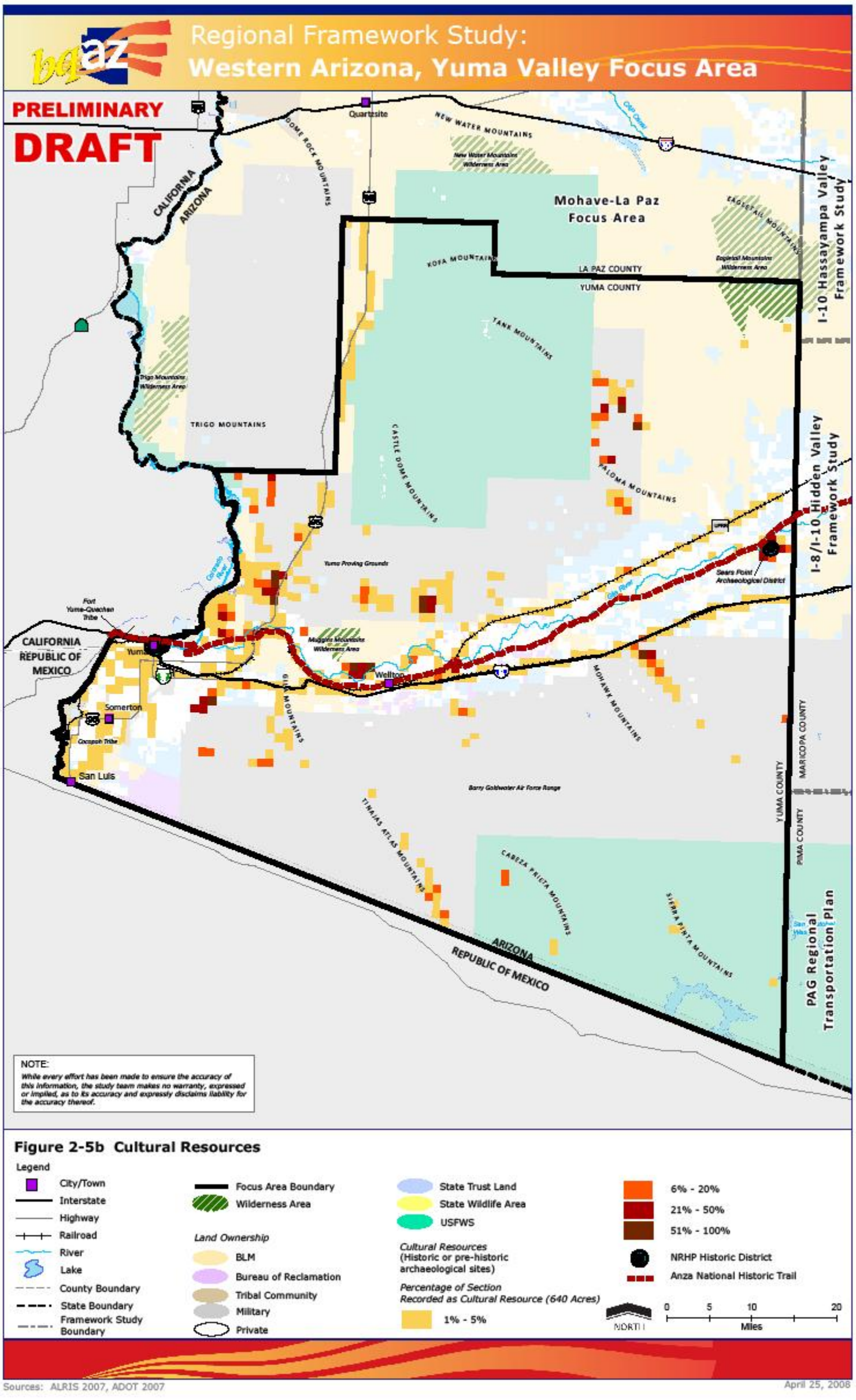


Figure 2-5b Cultural Resources Yuma Focus Area



2.2.5 Air Quality

Air Quality Attainment

The quality of our air is of concern because it can degrade the health of people, harm ecosystems, impair our scenic resources, and lead to potential economic consequences.

Legislated by Congress, the Clean Air Act (as amended in 1990) required the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standard (NAAQS) in an effort to improve air quality. A nonattainment area is an area which exceeds the NAAQS for any pollutant based upon data collected through air quality monitoring.

Nonattainment for the Western Area was reviewed for ozone (O_3), carbon monoxide (CO) and inhalable particulate matter (PM_{10}). Two areas were previously designated as non-attainment for PM_{10}: Bullhead City and Yuma. Bullhead City was redesignated as an attainment area with a maintenance plan on August 26, 2002.[14]

The Yuma area is still classified as being in nonattainment for PM_{10} (see *Figure 2-6*). Sources of the pollutant in the Yuma are agricultural activities, paved and unpaved road dust, and disturbed areas. However, in February 2004 the Arizona Department of Environmental Quality (ADEQ) submitted a Maintenance Plan to EPA for the Yuma area, because the area did not have any exceedances of the 24-hour PM NAAQS between the calendar years 1998-2000, or any annual PM NAAQS exceedances for calendar years 1998-2000. As a consequence, EPA has made a clean data finding for the Yuma area for calendar years 1998-2000 (see March 14, 2006 Federal Register). Upon approval of the Plan, EPA will redesignate the Yuma area to attainment for PM_{10} with a maintenance plan.

Air Quality Monitoring: Border Research Programs

ADEQ is conducting the Bi-national Air Quality Study for the Western Arizona-Sonora Border Region. The Arizona-Mexico border air pollution program is a bi-national study focusing on the air quality of the three largest border communities in Arizona:

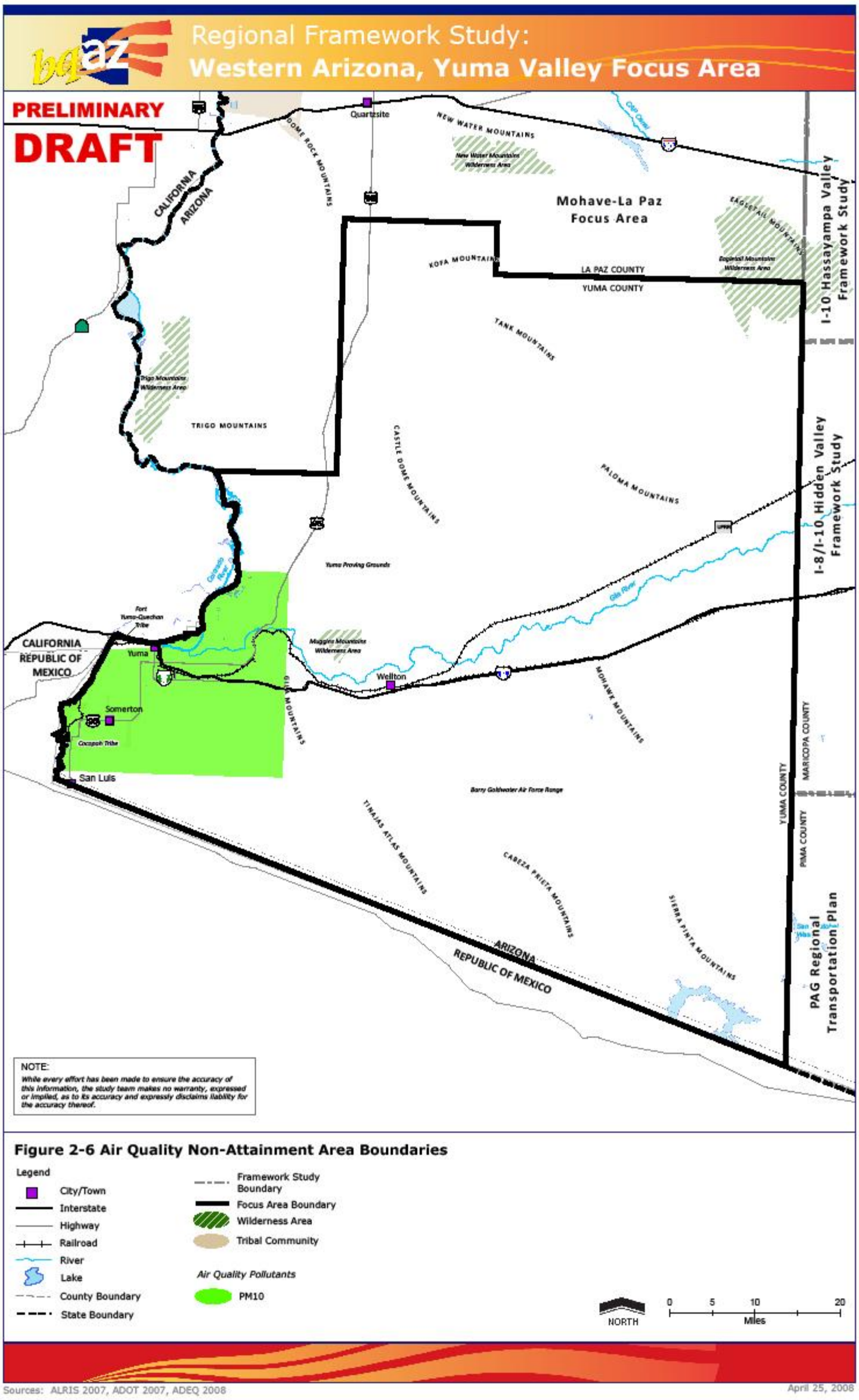
[14] Areas which once violated the NAAQS (previous nonattainment areas), but now achieve the standards as a result of intensive management practices (e.g.; oxygenated fuels, "lowest achievable emission rate" control technology, etc.) are classified as "maintenance" areas, and must implement a plan to maintain ambient concentrations below the maximum pollution standards.

Ambos Nogales, Douglas/Agua Prieta, and Yuma/San Luis[15]. The goal is to identify the contributions of various emissions sources and identify potential emissions reductions techniques to improve air quality in these areas.

[15] ADEQ Border Research Programs. Viewable at http://www.azdeq.gov/environ/air/monitoring/border.html#yuma.

[17] EPA Region 9: Superfund. Viewable at http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dec8ba3252368428825742600743733/a5e43681941c0fba88257007005e9472!OpenDocument.

Figure 2-6 Air Quality Yuma Focus Area



2.2.6 Hazardous Materials

Hazardous materials are any items or chemicals which can cause harm to people, plants, or animals when released by spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment. In December 1980, Congress established the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund. Superfund is a program to identify, investigate, and clean up uncontrolled or abandoned hazardous waste sites throughout the United States.

In 1990, Marine Corps Air Station Yuma was placed on the Superfund National Priorities List after chlorinated solvents used for aircraft refueling and servicing were detected in a groundwater monitoring well on the Station. The site occupies approximately 3,000 acres within the City and County of Yuma. The contaminants of concern are chlorinated solvents (TCE, DCE, and PCE). The main groundwater plume is approximately 1 mile long and 500 feet wide, and has reached the downgradient edge of the base. The maximum concentration of total solvents is approximately 500 parts per billion (ppb). All of the groundwater contamination has been detected downgradient of the old on-station drinking water well. However, the on-station drinking water well is no longer used and none of the groundwater is used elsewhere on the base. If left untreated, the plume could potentially impact private groundwater wells downgradient from the Station.[17]

Additionally, soil contamination is also a concern at this site. Asbestos (in the form of non-friable asbestos containing material, or ACM) is scattered on top of and buried in the surface soil.

2.2.7 Aviation Facilities

Within the study area, there are several airports classified by ADOT as part of the primary airport system or secondary airport system, which in total comprise the Arizona State Aviation System. Secondary airports are those public use facilities that are not in the primary system. Most of the airports are commercial or public use airports; however, there are several private airports as indicated in *Figures 2-7a and 2-7b*. *Table 2-3* provides a summary of the airports in the study area.

TABLE 2-3 Aviation Facility Classifications

NAME	LOCATION	SYSTEM	OWNERSHIP	FUNCTION
Colorado City	Mohave County	Primary	Private	General Aviation Public Use
Grand Canyon West	Mohave County	Primary	Native American	Commercial Service Public Use
Kingman	Mohave County	Primary	Public	Commercial Service-Other
Laughlin-Bullhead	Mohave County	Primary	Public	Commercial Service-Primary
Eagle Airpark	Mohave County	Primary	Private	General Aviation Public Use
Lake Havasu	Mohave County	Primary	Public	Commercial Service-Other

TABLE 2-3 Aviation Facility Classifications

NAME	LOCATION	SYSTEM	OWNERSHIP	FUNCTION
Avi Suquilla	La Paz County	Primary	Native American	General Aviation Public Use
Yuma International	Yuma	Primary	Government	Commercial Service-Primary
Pearce Ferry	Mohave County	Secondary	Government	General Aviation Public Use
Temple Bar	Mohave County	Secondary	Government	General Aviation Public Use
Grand Canyon Bar 10	Mohave	Secondary	Private	General Aviation Public Use
Sun Valley	Mohave County	Secondary	Private	General Aviation Public Use
Rolle	Yuma	Secondary	Government	General Aviation Public Use

Source: ADOT Aeronautics Division, 2008

Figure 2-7a Aviation Facilities Mohave-La Paz Focus Area

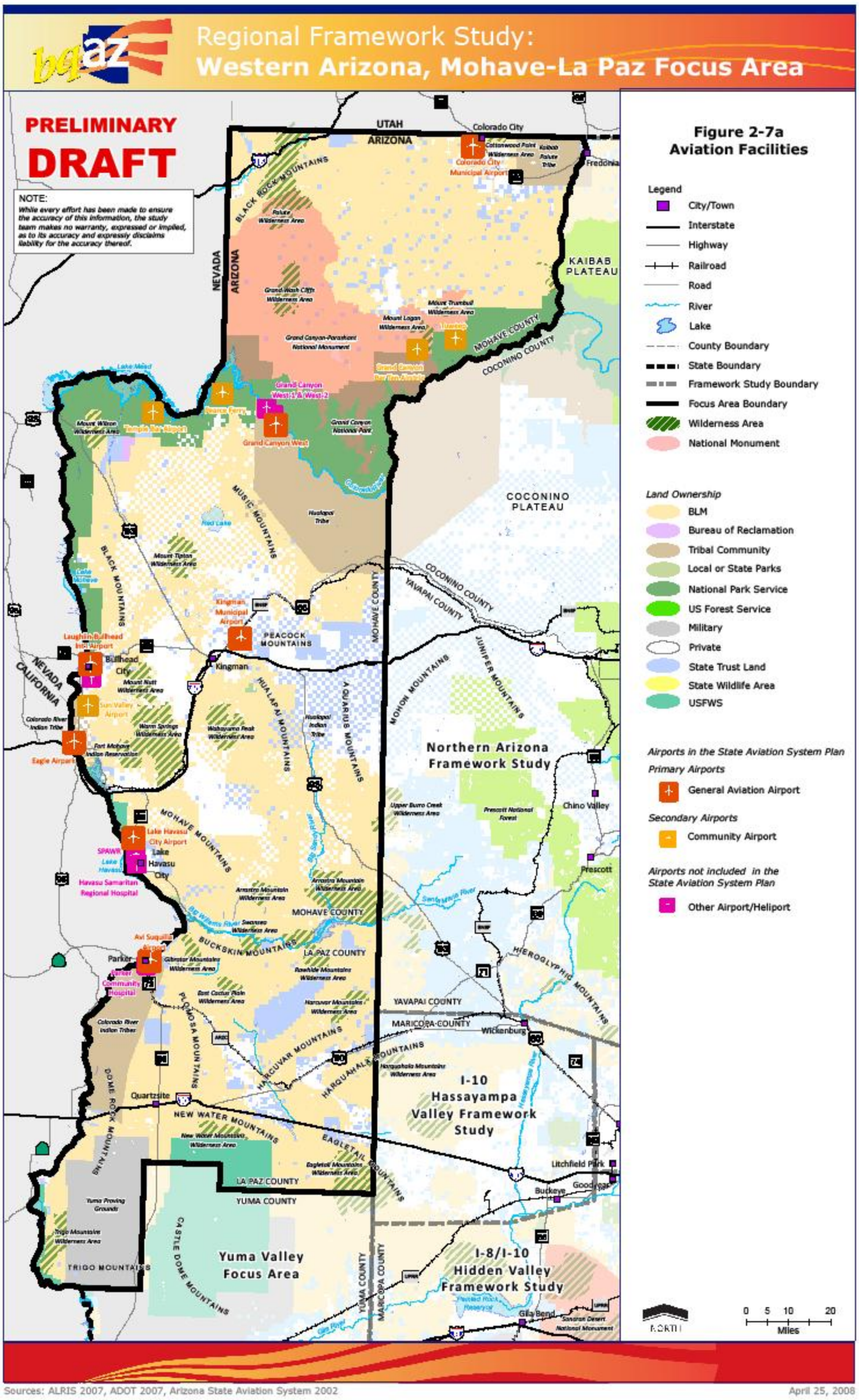
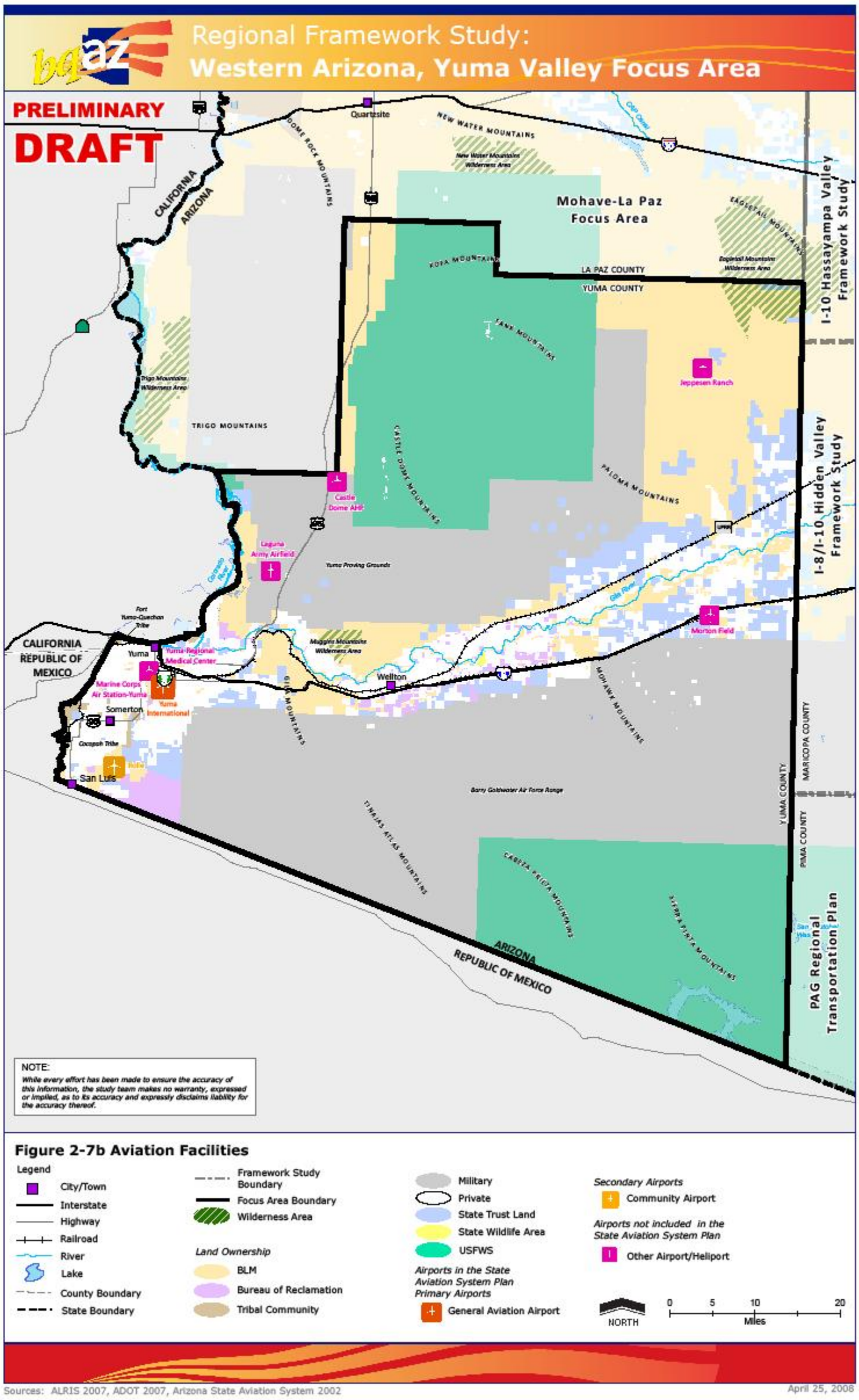


Figure 2-7b Aviation Facilities Yuma Focus Area



Sources: ALRIS 2007, ADOT 2007, Arizona State Aviation System 2002

April 25, 2008

2.2.9 Environmental References

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2.3 LAND USE

This section summarizes the existing and future land uses of the Western Area Framework Study which consists of Mohave, La Paz and Yuma Counties and includes the Cities and Towns of Kingman, Bullhead City, Lake Havasu City, Parker, Quartzsite, Yuma, Somerton, San Luis, and Wellton. The existing and future land uses were determined through a review of adopted city, county and agency plans as well as interviews with key stakeholders in the area.

2.3.1 Existing Land Use

Mohave-La Paz Focus Area
The Mohave-La Paz area is sparsely populated in La Paz County and through much of Mohave County. The major population centers are in Quartzsite, Parker, Bullhead City, Lake Havasu City, and Kingman.

Within La Paz County, Parker and Quartzsite are recreation and tourism oriented communities. Parker is a major destination along the Colorado River for water sports in the summer months, and Quartzsite is a popular winter destination and hosts a world-renowned gem and mineral show in the spring. During these time periods each year the number of people in the towns increases dramatically. The development in these areas is primarily residential and commercial along SR 95 to support tourism. Significant retail leakage to neighboring cities occurs due to a lack of commercial development in La Paz County. In the more rural areas of the county there are many unnamed wildcat subdivisions.

Mohave County boasts the cities of Bullhead City, Lake Havasu City, and Kingman. Each of these cities is built around the natural geography of the region and its transportation network. Bullhead City is a recreational destination along the Colorado River as well as a sister city to Laughlin, Nevada, across the river. This area is primarily residential with minor commercial and light industrial near the airport. It is fairly low density and is a popular destination for retirees. Lake Havasu City is a recreation destination for the Colorado River due to its proximity to wildlife refuges, state parks, and wilderness areas which allow it to capitalize on the natural beauty of the area. The city is home to many retirees but has also built a commercial downtown and commercial and industrial center to the north around the local airport. This employment base and recreation orientation makes it popular across many demographics. Kingman is a regional destination within Mohave County, as it has significant commercial and medical facilities. Due to the location along several transportation routes it is also an industrial hub for freight access to both southern California and Nevada.

Yuma Focus Area
The greater Yuma area has a significant population center in the City of Yuma, extending south to San Luis and Somerton and east to Wellton. Yuma has primarily commercial development in the core of the city with industrial development south of the airport and near the Barry M. Goldwater Range. Significant residential development exists throughout the city with newer development in the east. Agriculture is a significant characteristic of the region, particularly in the southwestern portion of Yuma extending through Somerton and San Luis. Residential development also exists in San Luis, Somerton, and Wellton for retirees, workers who commute into Yuma for employment, and for students attending Arizona Western College. The town of Wellton consists primarily of residential development.

2.3.2 Future Land Use

Much of the Western region is open space and most future growth will occur within existing city planning area boundaries. In the long term, the cities may look to expand into neighboring state lands or private lands. The details of each focus area are below.

Mohave-La Paz Focus Area
The Mohave-La Paz area is strongly linked to recreation, freight, industrial, and residential growth. Cities and towns along the Colorado River will continue to see growth related to recreational tourism as well as residential growth. The area has traditionally been attractive to retirees, but industry and commercial development growth is making the area attractive to a wide range of demographics.

Bullhead City and Parker will see an infill in growth, while Lake Havasu, which is geographically constrained, will see commercial and residential growth to the north. The area of Parker East, at the junction of US 95 and SR 72, is projected to have significant commercial and industrial growth. La Paz county is also examining its future as a center for alternative energy, although no specific sites or technologies have been selected. The Kingman area will grow along the I-40 corridor with residential and commercial developments, in addition to several master-planned communities throughout the region. Also, the Kingman area is planning to add a rail switching yard to alleviate freight traffic at the Port of Long Beach in California, although no site has been selected. It is anticipated that significant industrial growth will occur in conjunction with this freight switching yard. Residential developments and master-planned communities near the Nevada border are serving the Lake Mead recreation area, served by US 93. All of these new large developments are constrained by the availability of water.

Yuma Focus Area
Within the Yuma Focus Area, growth will occur through expansion of the existing cities of Yuma, San Luis and Somerton as well as along the I-8 corridor due to the constriction of existing land uses in much of the rest of Yuma County. Primary areas of growth include: Yuma Foothills, which will be chiefly residential with supporting commercial development; industrial along the new Area Service Highway (ASH) to the border with Mexico as well as along the existing US 95 route; and an increase in commercial development in San Luis, Somerton, and west Yuma. The area will also maintain its agricultural focus. Beyond the Foothills, along I-8, significant residential growth will occur in and around the Town of Wellton, and a new refinery plant will be built just east of the town (site undetermined).

Figure 2-8a Future Urban Growth Character Mohave-La Paz Focus Area

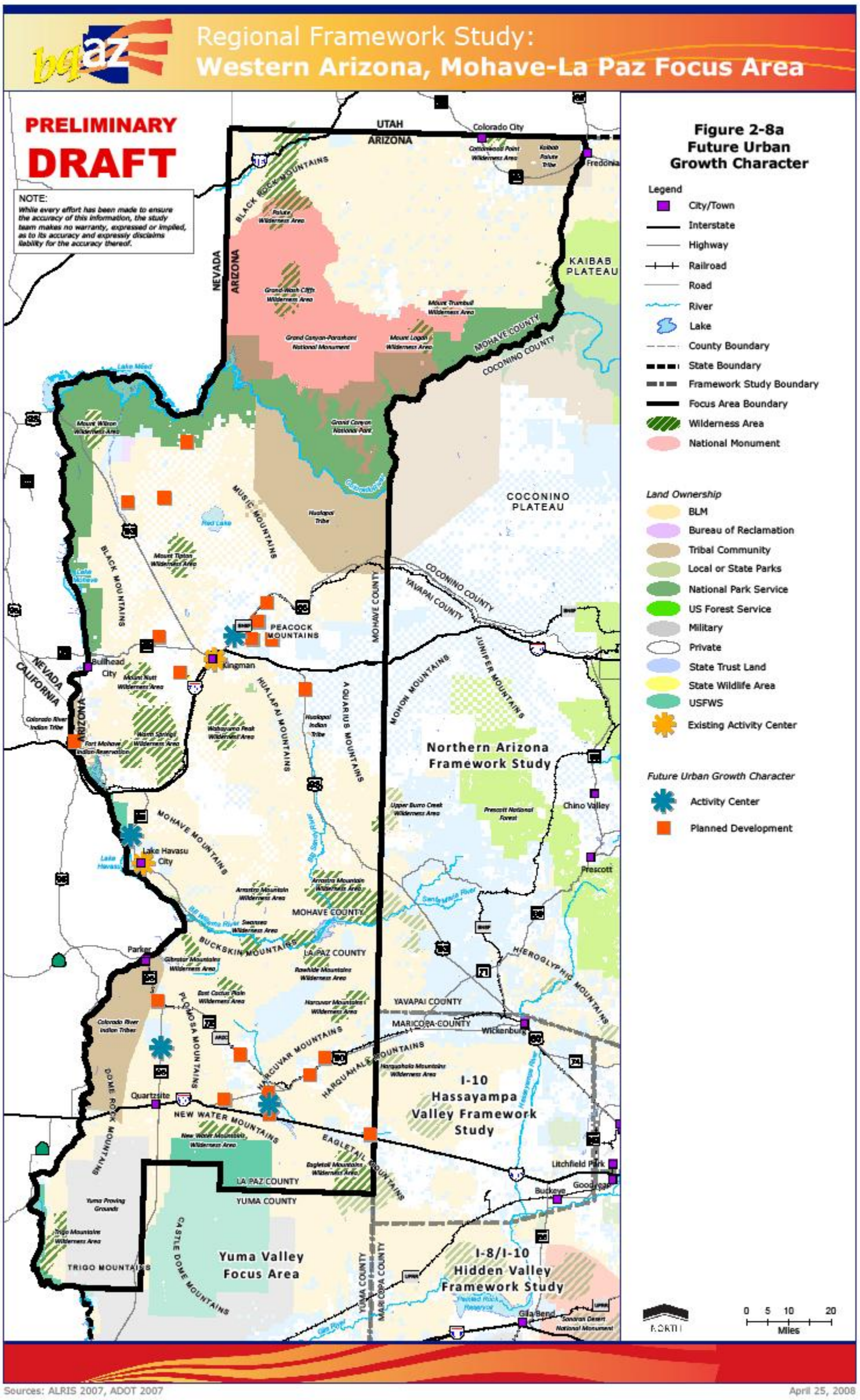
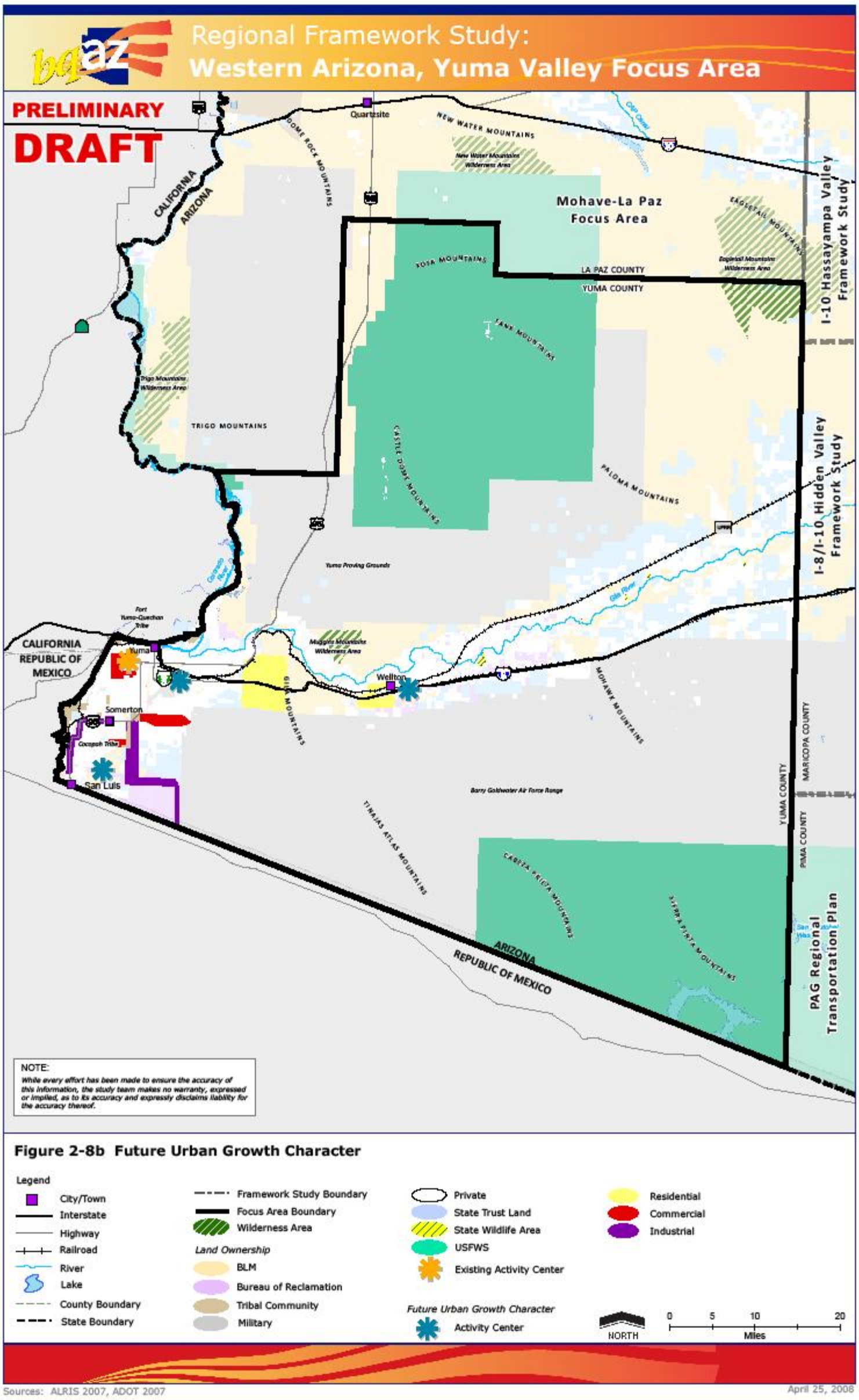


Figure 2-8b Future Urban Growth Character



2.3.3 Public Land Ownership

Mohave-La Paz Focus Area
Mohave and La Paz Counties form Arizona's western border, extending from Arizona's northern border with Utah down to Yuma County. Significant landforms within this area include the western portion of the Grand Canyon in the north, the Mohave Desert, and the Colorado River running along the western limits, which impacts land ownership.

This region includes significant open space and is sparsely populated. The southern area of La Paz County includes some military and US Fish and Wildlife land and a large Indian Reservation in the west. The remaining area of La Paz County is BLM land interspersed with State Trust and private lands along the US 60, SR 72 and SR 95 routes.

Mohave County is primarily BLM land with a checkerboard landownership pattern alternating with private land and with significant State Trust land checkerboarded with Private land east of Kingman. The Grand Canyon extends along the northern portion of Mohave County to Lake Mead, all of which is within the National Park Service lands. A large Indian Reservation is located adjacent to the National Park land.

Yuma Focus Area
Yuma County, in the southwest corner of Arizona, is approximately 9.8 million acres, with much of the land under military and US Fish and Wildlife Service control. Along the I-8 corridor and extending north up the eastern border of Yuma County the land ownership is intermixed with BLM, State Trust, and Private lands. Within Yuma County, the northern segment of the US 95 corridor is located within a swath of BLM land and is constricted by Military land to the west and US Fish and Wildlife land to the east. In the central region of Yuma County, US 95 is entirely within military land. The southern section of US 95 is in the urbanized area of Yuma. The area within the Yuma Planning Area, including the cities and towns of Somerton, San Luis, Wellton, and Yuma are primarily private uses intermixed with state trust land in the outlying areas. The growth of the greater Yuma region is constricted in the east by the military land ownership.

Public Land Management Studies
As discussed above, public land in Western Arizona includes BLM, National Parks, State Trust, and US Fish and Wildlife Lands. With the exception of State Trust Land, these agencies will not allow private development on their lands. There is no State Trust Land within this region which is scheduled to be released for private development at this time, however.

The BLM districts within the Western Arizona Region are:
- Arizona Strip
- Kingman
- Lake Havasu
- Yuma

Each of these BLM districts operates independently and is responsible for its own development plan and EIS. The Arizona Strip field office has recently completed its final Resource Management Plan (RMP) and EIS, released in March 2007. The Lake Havasu field office completed its RMP and EIS in October 2006. The Yuma field office is currently in the process of producing its RMP and EIS. The Kingman field office does not have a current plan on record. Each of the regions also has travel demand plans and various topical plans, such as prescribed burn management and species management.

The National Parks Service oversees the Grand Canyon National Park and Lake Mead Recreation Area, portions of which are within the Western region of Arizona. Significant NPS studies of interest include the Colorado River Management Plan, adopted in 2006, the Grand Canyon General Management Plan, which has not been updated since 1995, and the Lake Mead Strategic Plan, adopted in 2001.

The US Fish and Wildlife Service has significant landholdings within Western Arizona and has developed specific area plans for wildlife conservation and wilderness areas in the region. They also have specific species plans and statewide wildlife conservation plans. The only specific area plan for Western Arizona is the Lower Colorado River Multi-Species Habitat Conservation Plan, adopted in 2004.

Figure 2-9a Land Ownership and Protected Environmental Areas

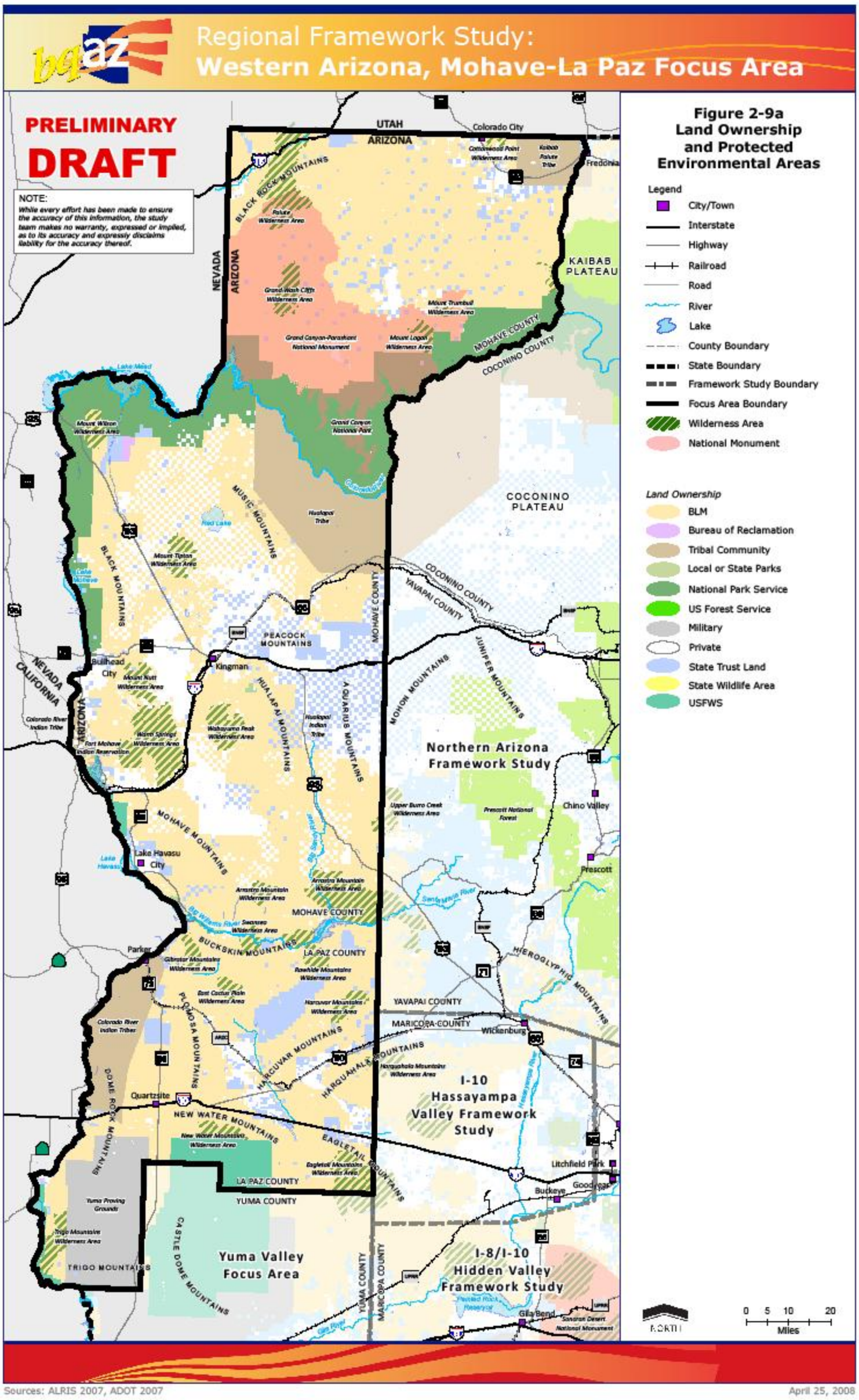


Figure 2-9b Land Ownership and Protected Environmental Areas

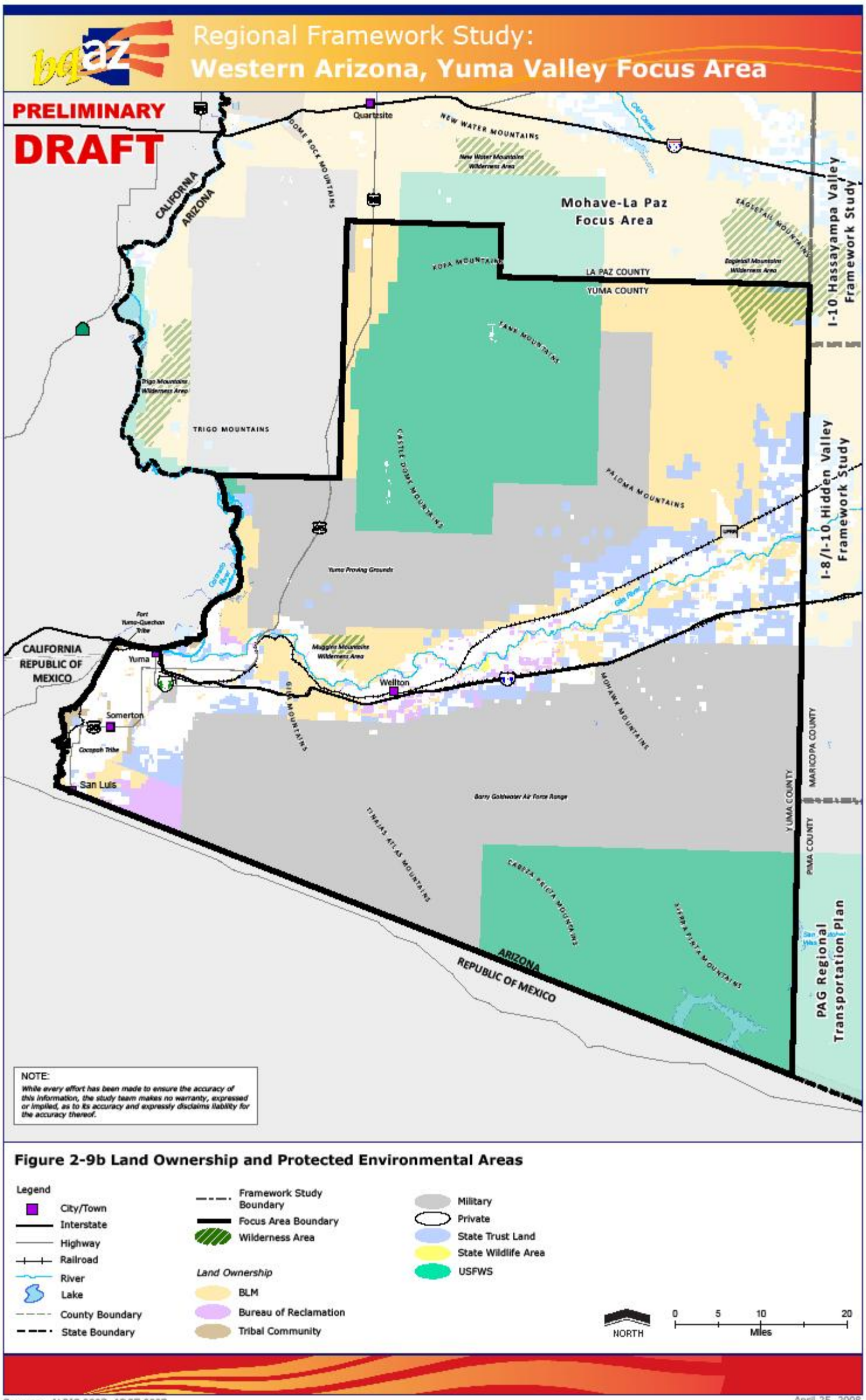


Figure 2-10a Public Land Management Studies

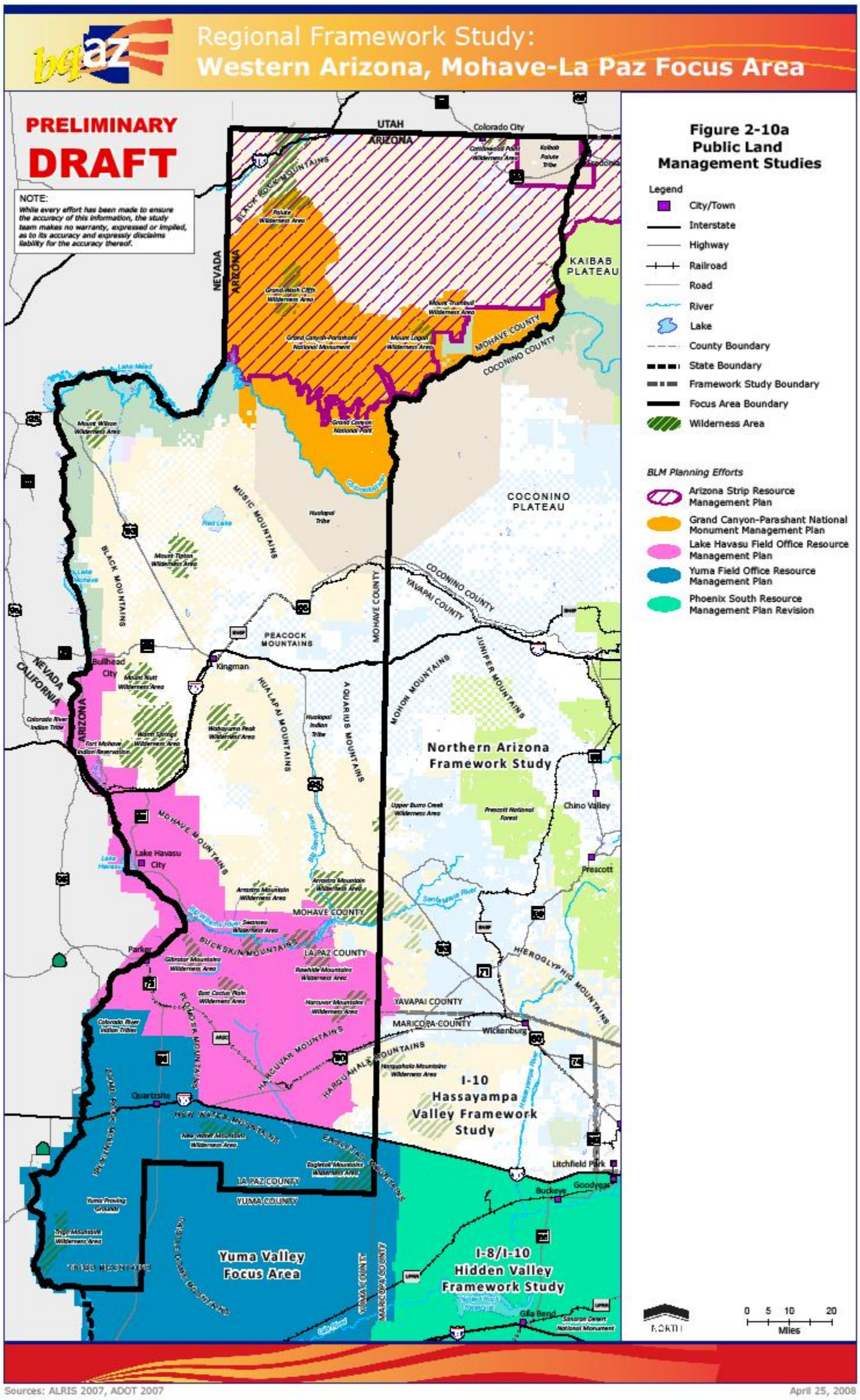


Figure 2-10b Public Land Management Studies

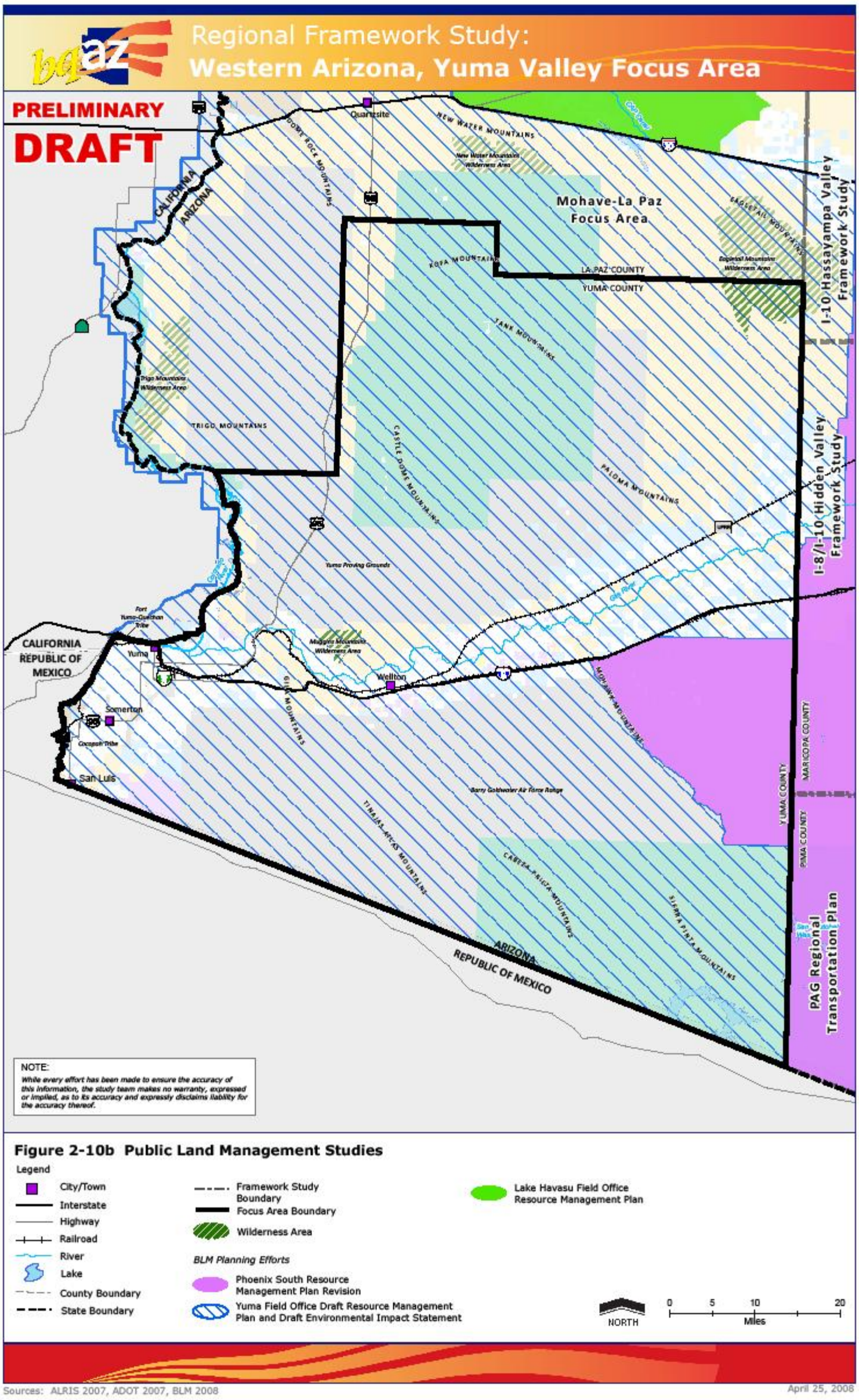


Table 2.4 Land Distribution in the Study Area

Ownership	Area (in acres)	Percent of Total
Yuma Focus Area		
Bureau of Land Management	4,992,917	51.10%
Bureau of Reclamation	42,874	0.44%
Tribal Lands	7,745	0.08%
Military	2,579,520	26.40%
Private	393,555	4.03%
State	210,257	2.15%
State Wildlife Area	1,091	0.01%
US Fish and Wildlife	1,542,660	15.79%
Total	9,770,622	100%
Mohave-La Paz Focus Area		
Bureau of Land Management	8,658,032	41.20%
Bureau of Reclamation	10,077	0.05%
County	15	0.0%
Tribal Lands	1,417,539	6.74%
Local or State Parks	6,344	0.03%
Military	847,023	4.03%
National Park Service	1,833,192	8.72%
Private	5,976,217	28.44%
State	874,496	4.16%
State Wildlife Area	1,186	0.01%
US Forest Service	654,503	3.11%
US Fish and Wildlife	737,621	3.51%
Total	21,016,245	100%

2.3.5 Large Planned and Proposed Development Projects

Future growth planned and proposed in the Western region includes both outgrowth from existing city limits and new areas along existing transportation corridors.

Master-Planned Communities

Several master-planned communities have been identified in Mohave County, and are in various states of approval. La Paz County has several growth areas identified, but little detail is available about these planned communities. All of the growth areas of La Paz County are outside of Parker and Quartzsite. The level and timing within which these communities are able to reach build-out conditions depends significantly on the availability of water in the region.

Table 2.5 Major Master-Planned Communities and Other Planned Developments

Name	Status	Total Acres	Total Dwelling Units	Commercial/ Employment Acres
La Paz County				
Utting-McVay Comprehensive Plan	Unknown	6,806	Unknown	Unknown
Hope-Vicksburg Comprehensive Plan	Unknown	7,562	Unknown	Unknown
Brenda Comprehensive Plan	Unknown	492	Unknown	Unknown
Salome Comprehensive Plan	Unknown	13,701	Unknown	Unknown
Wenden Comprehensive Plan	Unknown	3,217	Unknown	Unknown
Mohave County				
Retreat at Temple Bar	Approved	3,054	19,000	Unknown
Village at White Hills	Unknown	2,727	20,042	104
Peacock Vistas	Approved	2,088	9,490	338
Peacock Highlands	Approved	7,176	46,026	2,726
Silverado	Approved	4,870	19,222	1,603
Golden Valley	On-hold	53,760	21,000	280
Golden Valley South	Approved	5,750	33,264	2,036

Employment and Mixed-Use Activity Centers

Mohave-La Paz Focus Area
Several master-planned communities are anticipated in Mohave County, as outlined in Table 2.5. Each of these will include some level of commercial and employment within the development, as well as recreational opportunities such as parks, trails, and golf.

Significant employment and commercial development is also anticipated for northern Lake Havasu City, near the airport, as well as east of Kingman along I-40.

La Paz County has several comprehensive plans for its smaller rural communities. They anticipate some small scale employment growth oriented towards alternate fuel technologies. This employment growth will be near existing roadway facilities. Additionally, the Parker Annex at SR-95 and SR-72 will be a commercial and employment hub.

Yuma Focus Area

The Yuma area will experience growth in industrial and commercial development along existing corridors and the future ASH alignment. Additionally they will see an increase in existing employment centers in the established area of the city. The population will continue to grow toward the east, and future employment is planned just east of Wellton, although no site has been selected.

2.4 EXISTING ROADWAY SYSTEM

This section will discuss the key roads of regional significance throughout the Western Arizona Region. These roads include interstate routes, other state routes, and select local roads which are of regional significance. A key route is the Western Passage of the CANAMEX Corridor, which is a term used to describe the US-95/SR-95/I-40/US-93 corridor, which is not only significant to the region but the country as a significant passageway for freight movement.

2.4.1 State Highways

There are a few state highways which traverse Western Arizona and change character depending on the region and community. For many communities, the state highway is the 'main street', with on street parking and store fronts. Urban sections of the non-limited access routes typically have curb and gutter.

I-8: A 4-lane, divided, access controlled interstate freeway traversing the area east-west from the Arizona-California border east to Gila Bend. This facilitiy connects Yuma to Arizona cities to the east, is a major route for freight and provides a gateway to California.

I-8 (B): Varies from a 4-lane to 6-lane east-west urban arterial with either a two way left turn lane or a raised median in Yuma.

SR-195: A planned and programmed limited access 4-lane divided urban and rural highway from San Luis to I-8.

US-95: Varies from a 4-lane to 6-lane north-south rural and urban arterial with either a two way left turn lane or a raised median from the San Luis Border with Mexico to Avenue 9E in Yuma. It then becomes a 2-lane rural arterial from Avenue 9E in Yuma to Quartzsite. The rural section is a basic 40' roadway and is not a complete all weather facility, containing at-grade floodwater-crossings and a limited number of passing opportunities.

SR-95: A north-south facility along the western edge of the state. In the communities of Quartzsite, Parker, Lake Havasu City, and Bullhead City, SR-95 varies from a 4-lane to 6-lane urban arterial with either a two way left turn lane or a raised median. It functions as a 2-lane rural arterial from Quartzsite to Bullhead City except for the urban section in the above mentioned communities. The basic 40' roadway is not a complete all weather facility and contains at-grade floodwater-crossings and a limited number of passing opportunities.

SR-72: A 2-lane rural northwest-southeast arterial connecting Parker South at US-95 to US-60 at Hope-Vicksburg, traveling through Bouse and Utting-McVay. The basic 40' roadway is not a complete all weather facility and contains at grade floodwater-crossings and a limited number of passing opportunities.

US-60: A 2-lane rural arterial which connects to I-10 east of Quartzsite and extends east through the small communities of Brenda, Hope-Vicksburg, Salome, and Wenden. The basic 40' roadway is not a complete all weather facility and contains at grade floodwater-crossings and a limited number of passing opportunities.

I-10: A 4-lane divided, access controlled, east-west freeway from the Arizona-California border at Blythe-Ehrenberg connecting through to Phoenix in the east. This is a main route for travelers and freight moving to and from California.

I-10 (B): A 4-lane east-west urban arterial with a two way left turn lane in Quartzsite. This is the 'main street' in Quartzsite.

I-40: A 4-lane east-west, divided, access-controlled freeway from the Arizona-California border, crossing the Colorado River between Bullhead City and Lake Havasu City, connecting through Kingman, and on to Flagstaff. This is a major freight route for goods movement from California ports. It also provides an important regional connection to SR-95.

SR-66: A 4-lane southwest-northeast urban arterial with either a two way left turn lane or raised median in Kingman, through the industrial area around the Kingman Airport. The route becomes a 2-lane rural route north of the airport, serving as the main connection for the Hualapai Indian Reservation.

US-93: Varies from a 2-lane to 4-lane divided rural arterial, traveling northwest-southeast from the Nevada border, connecting to I-40 in Kingman. US-93 then continues southeast from I-40 east of Kingman, eventually connecting to Wickenburg. Between Kingman and Nevada, US-93 is considered to be part of the Western Passage of the CANAMEX corridor.

SR-68: Varies from a 2-lane to 4-lane east-west divided rural arterial from Bullhead City to Kingman.

2.4.2 Other Principal Arterial Roadways by Focus Area

The roads of regional significance within the Yuma area, Lake Havasu City, Bullhead City, and Kingman vary significantly by segment. They range from rural to urban arterial streets with cross sections ranging from 2-lanes to 6-lanes with two way left turn lanes or raised medians.

2.4.3 Study Area Roadway Functional Classifications

The functional classifications of the major study area roadways, per the 2005 FHWA functional classification system, are listed below.

State Highways

I-8: Rural Interstate outside Yuma City, Urban Interstate within Yuma City
I-8 (B): Urban Principal Arterial
SR-195: Rural Minor Arterial
US-95: Rural Principal Arterial outside Yuma, Urban Principal Arterial within Yuma
SR-95: Rural Principal Arterial
SR-72: Rural Major Collector
US-60: Rural Major Collector
I-10: Rural Interstate
I-10 (B): Rural Major Collector
I-40: Rural Interstate
SR-66: Rural Major Collector
US-93: Rural Principal Arterial
SR-68: Rural Principal Arterial

Local Roadway Systems

The local roadway functional classifications vary between Urban Collector and Urban Minor Arterial.

2.4.4 Existing Traffic Volumes and Truck Volume Percentages

The following AADT and truck volume percentages were obtained from the 2006 HPMS dataset for the significant roadways within the Western region.

- *I-8*
  21,000-27,000 vpd within Yuma
  12-20% trucks

  11,000 vpd east of Yuma
  19% trucks

- *I-8 (B)*
  11,000-31,000 with a peak volume near the airport
  12% trucks

- *US-95*
  2,400-10,500 outside Yuma
  20% trucks

  9,200-36,000 in Yuma with peak volume at I-8 junction
  10% trucks

- *SR-95*
  5700-33,300 vpd peaking within Lake Havasu City and the SR 68 junction
  11-19% trucks

- *SR-72*
  2300-2800 vpd
  11% trucks

- *US-60*
  1600-2100 vpd
  20% trucks

- *I-10*
  23,000-29,000 vpd with a peak volume at the US 60 exit
  35% trucks west of Quartzsite
  44% trucks east of Quartzsite

- *I-10 (B)*
  6500-7100 vpd
  17% trucks

- *I-40*
  13,000-32,000 vpd with a peak volume at Stockton Hill Rd in Kingman
  44% trucks west of Kingman
  32% trucks east of Kingman

- *SR-66*
  19,400 vpd in Kingman
  25% trucks
- *US-93*
  6600-21,500 vpd with a peak volume at Kingman junction with I-40
  24% trucks

- *SR-68*
  13,000 vpd
  12% trucks

2.4.5 Existing and Proposed Major Bridges and Structures

The Western region provides an important connection to Arizona from California and Nevada across the Colorado River. The key bridge crossings of the Colorado River are US-93 south of Lake Mead, Bullhead Parkway at Bullhead City-Laughlin, Aztec Road at Ft. Mohave, SR-95 at Needles, I-40 at Topock, SR-95 at Parker, Agnes-Wilson Rd at the Colorado River Indian Reservation, I-10 at Blythe-Ehrenburg, and I-8 in Yuma. These are significant crossings which enable freight movement, recreation, tourism, and general travel.

Additional significant bridge structures which are planned, programmed, or proposed are shown in Table 2.6.

Table 2.6 Proposed Bridge Improvements

Road	River	Current Lanes	Future Lanes	Added Lanes	Current Conditions	Action	Cost (Millions)
SR-95 at Parker	Colorado Spur			2-4			
Unknown, near Bullhead City	Colorado						
I-8 at Ave D	Colorado						

2.4.6 Railroad Grade Crossings (state highways & principal arterials only)

There are many at-grade rail crossings of major roadways in the Western region, although in several communities all rail crossings of major roadway facilities are grade separated. The significant at-grade rail crossings are:

- I-8(B) near 1st Street in Yuma has an at-grade crossing without automatic gates for a private historic rail line.
- 24th Street near Avenue 3E in Yuma has an at-grade crossing with automatic gates for a private spur.
- Fortune Road near US-95 in Yuma County has an at-grade crossing with automatic gates for the UPRR.
- SR-95 in Parker near the Ehrenberg-Parker Highway has an at-grade crossing with automatic gates for the Arizona-California Railroad.
- SR-95 in Parker near the intersection of California Avenue and Riverside Drive has an at-grade crossing with automatic gates for the Arizona-California Railroad.

2.5 EXISTING PUBLIC TRANSPORTATION

2.5.1 Local and Regional Transit Systems

Existing transit services in the Western region as depicted is Figure 2-11a and Figure 2-11b is described below. (Transit services are listed by county.) Transit services are administered by public agencies and are available to the general public.

Yuma Focus Area

Yuma County Area Transit (YCAT), operated by the Yuma Metropolitan Planning Organization, provides fixed-route and demand-responsive complementary ADA paratransit service.

- The fixed route system includes seven routes: three circular one-way routes; a center-city route; two long distance routes (Yuma-San Luis and Yuma-Wellton); and a short-distance route serving the Cocopah Indian Tribe. Transit service is operated Monday through Saturday from 6:00 a.m. to 10:00 p.m., with routes on one hour frequencies. Routes originate from the Yuma Palms Regional Shopping Center and from San Luis. Although some of the routes overlap at several points, transfers are timed only at Yuma Palms.

- The complementary paratransit service (Dial-A-Ride) is available Monday through Saturday from 5:00 a.m. to 10:00 p.m. It serves seniors and persons with disabilities. A 24-hour advanced reservation is required. Service is provided throughout Yuma County, including the City of Yuma, San Luis, Somerton, Gadsen, Foothills and Wellton.

The total fleet for the fixed-route system is 12 vehicles, which includes three back-up vehicles. Dial-A-Ride operates 13 vehicles, including two spares.

Mohave-La Paz Focus Area

Bullhead Area Transit System (BATS)

The Bullhead Area Transit System (BATS) is based in Bullhead City and provides deviated fixed-route and demand responsive services. Services are provided within the city limits but also connect with the Laughlin Connection, an intercity connection to Laughlin, Nevada.

- BATSMOBILE is a checkpoint deviated service with scheduled service along two routes. Riders board from designated bus stops located throughout Bullhead City. Route #1 provides service traveling north to south along the Highway 95 corridor from the Boat Docks on the north end of town to Mohave Community College and South to the Rio Lomas area. Route #2 provides service traveling east to west including major shopping and medical centers. BATSmobile services operate from 5:30 am until 8:30 pm, Monday through Friday, and from 8:30 am until 8:30 pm on Saturdays.

- Dial-A-BATS provides curb-to-curb, demand responsive service to the community to meet the needs of the elderly, disabled, those who lack a personal vehicle, and general public transportation. This service is available by contacting the dispatcher to schedule a ride. Dial-a-BATS service is available weekdays from 6:00 am until 7:00 pm and on Saturdays from 6:00 am until 5:00 pm.

BATS also works with public and private entities such as the DES, CPS, Mohave Mental Health and the Senior Center to assist in their transportation needs. BATS' fleet consists of ten vehicles, all of which have wheelchair lifts and tie-downs, and has recently obtained a 30-passenger bus and a 15-passenger cutaway style vehicle. BATS is funded in part by the Arizona Lottery, Federal Transit Administration (FTA), Arizona Department of Transportation (ADOT), City of Bullhead City, and advertising and fare revenues.

Kingman Area Regional Transit

Kingman Area Regional Transit (KART) operates deviated fixed-route services in the City of Kingman and the Greater Kingman-Butler Area.

- KART's fixed-route services consist of four routes. Yellow and Blue routes operate Monday through Friday, from 5 am until 8 pm. The Green and Red routes operate from 5 am until 7 pm on weekdays. All routes operate on Saturday from 9 am to 6 pm.

- KART's curb-to-curb services operate from 9 am to 5 pm, Monday through Saturday. The curb-to-curb services are available to seniors and persons with qualifying disabilities as well as the general public; all curb-to-curb riders must fill out an application. Fares are reduced for seniors and persons with disabilities. Curb-to-curb services are provided by the same service as the fixed-route services; the fixed-route vehicle simply diverts to pick up clients who are not able to walk to the bus stop. Curb-to-curb trips must be scheduled in advance.

KART operates with a fleet of seven vehicles, all lift-equipped with tie-downs. One bus is dedicated to the curb-to-curb service.

Havasu Area Transit

The Havasu Area Transit (HAT) system operates a fixed-route and demand-responsive (curb-to-curb) public transit service to residents of the cities of Lake Havasu City and Desert Hills.

- The fixed-route service comprises five routes that originate from a central transfer station. Each bus leaves the transfer station at the bottom of the hour, making up to 24 stops along a fixed route that includes the return trip to the transfer station, where passengers may change buses to get to their final destination. Hours of operation are weekdays from 6 am to 7 pm and on Saturday from 6 am to 6 pm.

- Curb-to-curb service is available with a 24-hour reservation for riders 65 and older, qualifying disabled persons, and others who live outside the normal HAT service area. Service hours are Monday through Friday, 7 am to 9 pm and Saturdays, from 8 am to 6 pm.

Havasu Area Transit operates with a fleet of 18 vehicles.

Mohave County Sub-region

The Mohave County Sub-region includes the unincorporated areas in Mohave County. Historically, the County has provided support for the Title III-Older Americans Act transportation services provided by Senior Centers at various locations in the County. Colorado City was also included in this sub-region.

La Paz County

La Paz County Transit is based in Parker and provides advance reservation services on a scheduled basis to the general public, with priority for seniors and persons with disabilities.

Locations that are served include Salome/Wenden, Parker, Ehrenburg, Bouse, along with Wickenburg and Surprise to the east. Reservations are required, and the service has semi-regular routes but which may only operate if enough riders are present. Route and service hours are the following:

- Parker (town) route
  - Monday through Friday, 8 am to 3 pm

- Parker Dam route
  - Monday through Friday
  - First pick-up at 8:30am, upriver, then leaves town at 10:30 am, 1 pm, and 2:30 pm

- Salome/Wenden Route
  - Monday and Friday: to Parker
  - Tuesday: to Wickenburg
  - One Tuesday a month to Surprise.
  - Salome/Wenden runs must have at least 4 riders for a trip over 20 miles. If enough trips are requested, a run to Goodyear, Blythe, and/or local runs may be scheduled.

- Ehrenberg/Bouse Route
  - Monday: Parker to Ehrenberg
    - Makes various stops in Blythe.
  - Tuesday and Friday: Parker to Bouse
    - Local stops in Bouse, then local stops in Parker
  - Wednesday: Parker to Ehrenberg
    - Makes various stops in Blythe.
    - Brings riders to Parker, makes various stops in Parker and returns to Ehrenberg.
  - Thursday: Lake Havasu City
    - Pickups in Bouse and Parker.

La Paz County Transit service is currently provided in four passenger vans, each with a capacity of between eight and ten passengers. Service is funded by the County, the Western Arizona Council of Governments Area Agency on Aging/DES, and fare revenues. A donation of three dollars is suggested for the trip to Parker.

Town of Quartzsite

The Town of Quartzsite provides demand-responsive service, Desert Roadrunner, within Quartzsite Monday through Friday to seniors and persons with disabilities. Service is also provided to special community events on weekends. Once a week, service is provided to the surrounding communities of Blythe and Parker. Once a month, service is provided to Lake Havasu City, with service twice a month to Yuma.

The Palo Verde Valley Transit Authority (PVVTA) operates the Desert Roadrunner, a deviated fixed-route service based in Blythe, California. The service operates almost entirely in California but provides service across the state line to Ehrenberg. Service operates Monday through Thursday, 5:40 am to 10:30 pm; Fridays from 5:40 am to 7:30 pm; on Saturdays, Sundays, and some holidays from 8:00 am to 5:30 pm. Since it is a

deviated fixed-route service, the bus will travel up to three-quarters of a mile on either side of the route. Reservations are required at least 30 minutes in advance for off-route pick-up or drop-off and are subject to limited availability.

PVVTA is administered by the City of Blythe, which oversee the administration, marketing, planning and financial aspects on behalf of the agency. PVVTA's fleet consists of two classic American trolleys, one gasoline-powered van, and six diesel-powered, 16-to-24-passenger cutaways.

Figure 2-11a Existing Transportation Network Mohave-La Paz Focus Area

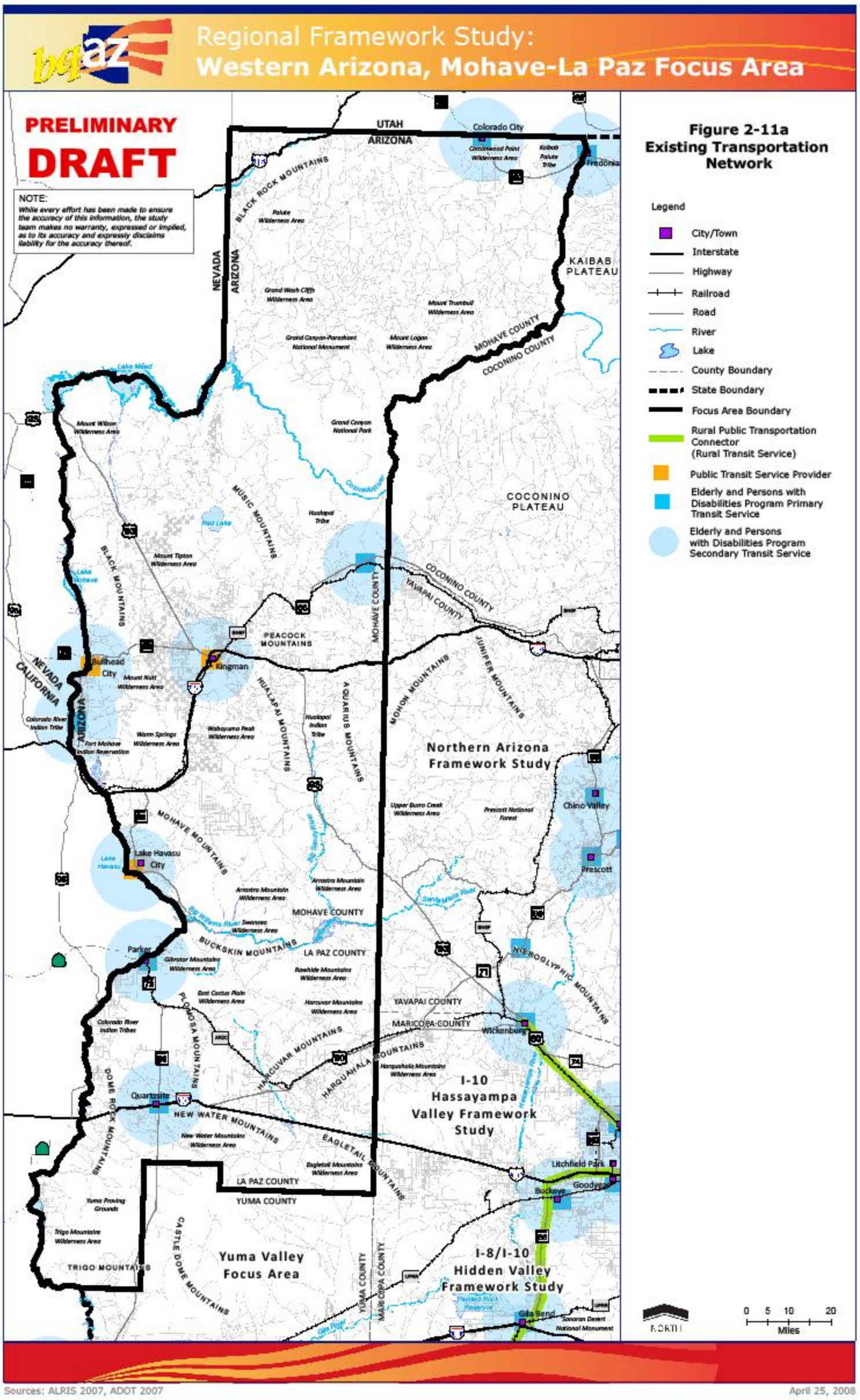
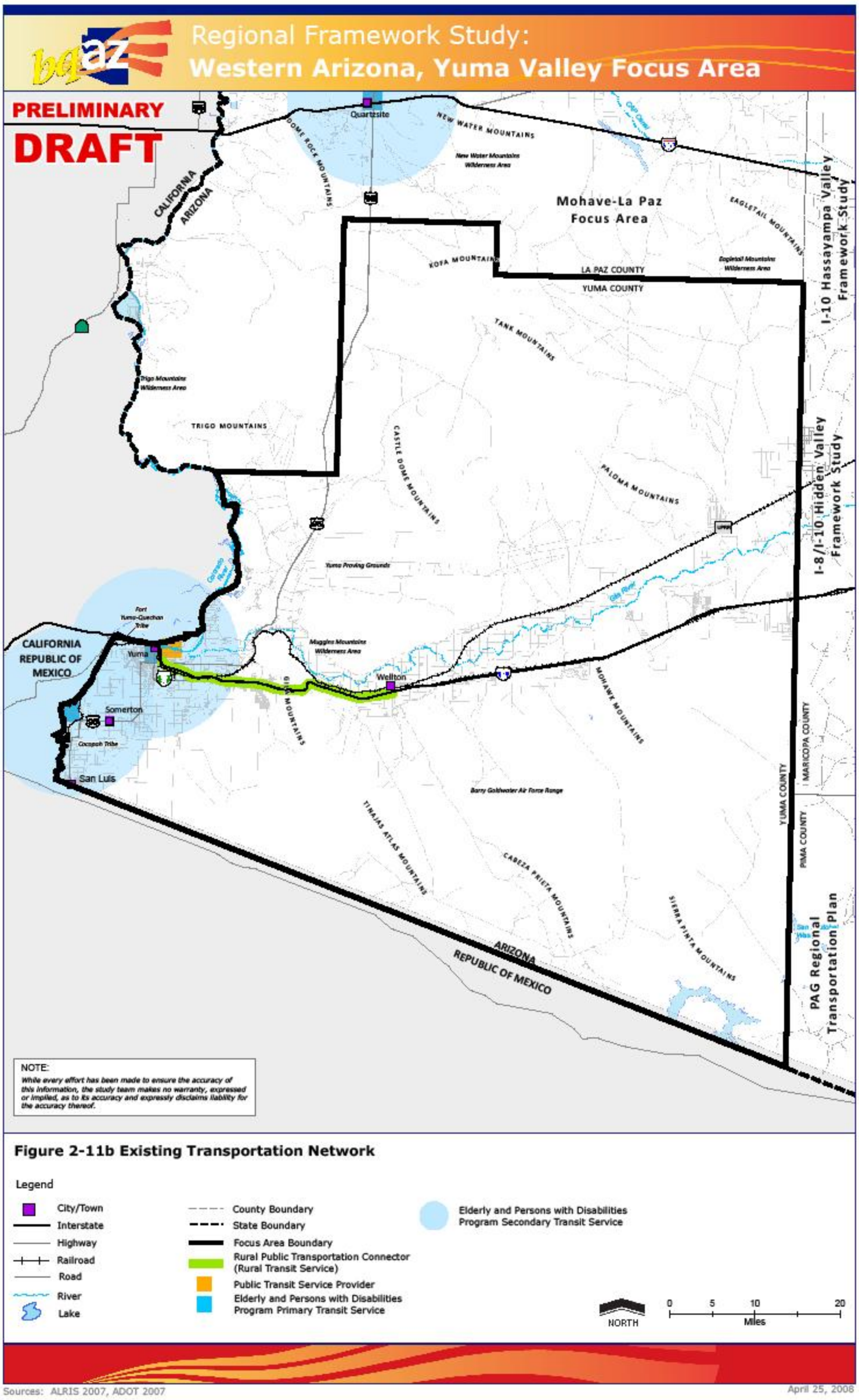


Figure 2-11b Existing Transportation Network Yuma Valley Focus Area



2.5.2 Special Needs Transportation Services

A variety of specialized providers is present in the Western Area of Arizona to meet the needs of specific passenger groups. Note: much of the information in this section was obtained from the April 2007 Arizona Rides report on coordination efforts in the WACOG region.

Yuma Focus Area
Several nonprofit agencies provide specialized client-oriented services in the Yuma area, as described below.

Saguaro Foundation
Saguaro Foundation is a nonprofit human services organization serving clients in Yuma County. Saguaro Transportation Services is the transportation arm of the Foundation. (Saguaro Transportation Services operated both the fixed route public transit service and the complementary ADA paratransit service, under contract to the Yuma MPO.) Saguaro Transportation provides transportation to its own clients and provides transportation under contract to other organizations. Service include several contracts with the Department of Economic Security (DES), including Vocational Rehabilitation, Family Services, Developmental Disabilities; Western Arizona Council of Governments (WACOG) for seniors; Arizona Health Cost Containment System (AHCCCS) for Medicaid transportation; the United Way; and the Arizona Department of Corrections for transportation for prison visitors.

City of Somerton
The City of Somerton provides transportation for seniors in the Somerton community. The service picks up seniors from their homes and takes them to the Nutrition Center and then back home. Transportation is provided to the city of Somerton, Mesa Verde, Orange Grove, and Yuma County Housing. Transportation is provided Monday-Friday 7:00 am to 12:15 pm and on special occasions such as parades and field trips.

City of San Luis
The City of San Luis provides transportation services for seniors in the San Luis area. Service is provided five hours a day, five days a week.

Town of Wellton
The City of Wellton does not currently provide transportation services for seniors, but has plans to consider and/or initiate service by 2009.

Catholic Community Services in Western Arizona (CCSWA)
CCSWA has provided Yuma County with a variety of transportation services over the last forty years. Included are services to adult day health, the Safe House domestic violence shelter, meals on wheels and substance abuse counseling.

- Counseling Clients – One van is used to transport counseling clients, especially for substance abuse groups. This van is also used for the Home Delivered Meals program five mornings a week, when not in use by the Counseling Department.

- Safe House Domestic Violence – This van also provides transportation for Safe House Domestic Violence participants. This includes trips to court, meetings with caseworkers, medical and dental appointments, school meetings, and related services. This van is also used for picking up donations of clothing and toys and shopping for the shelter.

- Adult Day Health Care – This van is used to provide transportation to and from the Adult Day Health Care facility on a daily basis. Transportation is provided transportation for field trips, doctor's appointments and meetings.

The EXCEL Group

The EXCEL Group provides transportation based on medical necessity for seniors and adults with disabilities who are diagnosed as Seriously Mentally Ill (SMI), and/or have physical disability and are eligible for Title XIX services under the Arizona Health Care Cost Containment System (AHCCCS). They provide this service for all SMI consumers in Yuma and La Paz County, Monday – Friday 5:00 am to 7:00 pm and Saturdays from 5:00 am to 9:00 pm. The EXCEL works closely with several other mental health providers in the Yuma metropolitan area, providing transportation for children, adults and seniors with mental illness and physical disabilities.

Regional Center for Border Health

The Regional Center for Border Health, Inc. (RCBH) offers medical transportation services to residents of Yuma County. RCBH has three trained and certified drivers that work Monday through Saturday. The hours worked differ depending on scheduled runs, but services start as early as 3:00 am and end at 11:00 pm.

Yuma WORC Center

The Yuma WORC Center, Inc. is a nonprofit 501(c) 3 agency that has been servicing the needs of individuals with disabilities within the Yuma Community since 1973. They provide employment and work training opportunities such as custodial contracts, bulk mailing services, and confidential document destruction. Participating individuals are spread throughout Yuma County, Wellton, San Luis, El Centro, and even Blythe California. Most clients cannot drive and find it difficult to get transportation. The Center provides transportation to some job sites (YPG, document destruction pick ups, and some of our janitorial contracts) on a daily basis.

Mohave-La Paz Focus Area

Silver Ridge Village

Silver Ridge Village is a skilled nursing facility serving the elderly and disabled populations of Bullhead City, the Mohave Valley and surrounding areas. Two FTA 5310 vans serve the public in transporting low and fixed income elderly and disabled residents to doctor's office visits, dialysis, x-rays, transportation between local hospitals, and for recreational activities for the nursing facility residents. Silver Ridge Village has agreements to ensure that the other related service organizations in the area can use these transportation services as their needs increase, including the River Gardens Rehab & Care Center, Rustler's Outpost Learning Center, the Lingenfelter Center and The Lily Pad Day Care Center. Under this service plan, 90% of the van usage will be to service the primary medical transport necessities of the elderly/disabled population. The remaining 10% will encompass recreational activities or intergenerational activities with Rustler's Outpost and The Lily Pad Day Care Center.

Other Providers

Limited information is available about other transportation services in Bullhead City. It was reported that the Bullhead City Senior Center has two vehicles and there are several churches with buses. No inventory information was submitted by these organizations.

Kingman

In Kingman, the Royal Shuttle Service provides service to airport, and Kingman Cab Company, Lightning, and Yellow Taxi all provide taxicab services.

Mohave County Senior Program
The Mohave Senior Program provides door to door transit service for senior citizens with disabilities and senior citizens ages 60 and above. Handicap vehicles are available. All services are donation based. Services are provided to Mohave county residents except for citizens in extremely remote areas. Services are provided in most cases from 8:00 a.m. to 4:00 p.m. Remote areas received services on a part-time basis.

Hualapai Tribal Nation
The Hualapai Tribal Nation provides transportation services that connect low-income residents on the Hualapai Indian Reservation with available jobs and entrepreneurial opportunities at Grand Canyon West (which is also on the Hualapai Reservation). Currently, the Hualapai Tribe provides transportation to elderly, disabled, and low-income residents through the Hualapai Health Department. The Health Department possesses 10 vehicles, two of which were purchased with a grant from ADOT and the FTA 5310 program. The other vehicles were purchased with tribal funds. In addition, the Tribal enterprise – Grand Canyon Resort Corporation – provides limited transportation services from Peach Springs to Grand Canyon West using three older vans that are not durable for sustained travel on rugged dirt roads.

WestCare
WestCare contracts with child protective services with countywide referrals from case managers, providing services to and from appointments, visits, school, and work with in Mohave County seven days a week from 7am-7pm.

Central Arizona Council for Developmentally Disabled
This agency presently provides transportation services for people with disabilities of all ages in Pinal and Gila Counties. Vehicles are used for transporting clientele to various types of doctor appointments, recreational facilities, religious and community activities. These services will be available 24 hours a day 7 days a week in all of Mohave County.

Colorado City
Colorado City operates one van under the FTA Section 5310 program. This vehicle provides service on-call, usually one person at a time. Most trips are to St. George, Utah, and Flagstaff. Many trips are over 100 miles. Service is provided at no charge.

Mohave County Association for Retarded Citizens (MARC)
Transit services are provided for special needs clients for training and living skills workshops and employment. MARC serves Greater Kingman area and surrounding communities.

Mohave Mental Health Center
The Mohave Mental Health Center provides mental health services in the region. They provide transportation services to support client needs. In addition to Kingman, they have vehicles based in Lake Havasu City and Bullhead City. Vehicle information is shown below.

- Bullhead City - 1993 Ford, 8 passenger van with lift; 1999 Ford, 12 passenger van-no lift, 2005 Chevy, 7 passenger van-no lift

- Lake Havasu City - 1992 Dodge, 8 passenger with lift, 1997 Dodge 12 passenger with lift, 2001 Dodge, 12 passenger-no lift

- Kingman - 1992 Ford, 15 passenger-no lift, 1994 Dodge, 8 passenger-no lift, 2000 Chevy, 8 passenger-no lift, 2002 Ford, 12 passenger-no lift, 2003 Ford, 8 passenger with lift, 2004 Ford, 8 passenger with lift

The EXCEL Group

The EXCEL Group provides transportation based on medical necessity for seniors and adults with disabilities who are diagnosed as Seriously Mentally Ill (SMI), and/or have physical disability and are eligible for Title XIX services under the Arizona Health Care Cost Containment System (AHCCCS). The EXCEL Group provides this service for all SMI customers in La Paz County, Monday to Friday 5:00 am to 7:00 pm and Saturdays from 5:00 am to 9:00 pm.

Table 2.7 Local & Regional General and Special Needs Transit Services

Name of System	Responsible Jurisdiction / Agency	Operator	Number & Type of Vehicles (Bus, Minibus, van, etc.)	Service Area	Eligible Population	Service Type (Fixed Route, Demand Responsive)	Days & Hours of Service	Major Funding Sources
BATS-mobile	*Bullhead Area Transit System (BATS) – City of Bullhead City*	*City of Bullhead City*	*Ten cutaway style buses*	*Bullhead City city limits, with a connection to Laughlin, NV*	*General public*	*Fixed Route*	*Mon – Fri: 5:30 am to 8:30 pm Sat: 8:30 am to 8:30 pm*	*LTAF II, FTA 5311 (Rural Transit), advertising & fare revenues*
Dial-a-BATS	*Bullhead Area Transit System (BATS) – City of Bullhead City*	*City of Bullhead City*	*(included in fleet above)*	*Bullhead City*	*General public*	*Demand-responsive (curb-to-curb)*	*Mon-Fri: 6am to 7pm Sat: 6am to 5pm*	*LTAF II, FTA 5310, advertising & fare revenues*
KART	*Kingman Area Regional Transit (KART)*	*City of Kingman*	*Five cutaway style buses*	*Greater Kingman Area*	*General public*	*Flexible fixed-route*	*Mon. – Fri: 5am to 8pm Sat: 9am to 7pm*	*LTAF II, FTA 5311, FTA 5317 (New Freedom)*
KART	*Kingman Area Regional Transit (KART)*	*City of Kingman*	*One cutaway style bus*	*City of Kingman, Greater Kingman-Butler Area*	*General public*	*Demand-responsive (curb-to-curb)*	*Mon. – Fri: 5am to 8pm Sat: 9am to 7pm*	*FTA 5310 FTA 5317 (New Freedom)*
KART	*Kingman Area Regional Transit (KART)*	*City of Kingman*	*One cutaway style bus*	*City of Kingman, Greater Kingman-Butler Area*	*Senior transportation*	*Demand-responsive*		*Title III Older American Act, WACOG transit funding, LTAF II*
HAT	*Havasu Area Transit (HAT)*	*City of Lake Havasu*	*18 vehicles*	*Lake Havasu City, Desert Hills, Horizon Six*	*General public*	*Fixed-route*	*Mon-Fri: 6am to 7pm Sat: 6am to 6pm*	*FTA 5311*

Name of System	Responsible Jurisdiction / Agency	Operator	Number & Type of Vehicles (Bus, Minibus, van, etc.)	Service Area	Eligible Population	Service Type (Fixed Route, Demand Responsive)	Days & Hours of Service	Major Funding Sources
HAT	*Havasu Area Transit (HAT)*			*Lake Havasu City, Desert Hills*	*Pre-qualified seniors, persons with disabilities, and people living outside the scheduled route area*	*Demand-responsive (curb-to-curb)*	*Mon-Fri: 7am to 9pm Sat: 8am to 6pm*	
Van services	*La Paz County Transit*	*La Paz County*	*Four vans; each van is 8 to 10 passengers*	*Parker, Ehrenburg, Bouse, Salome, Wenden*	*General public, although people over 60 and the disabled are the priority*	*Reservation service with some scheduled stops in certain areas*	*Weekdays; Hours depend on destination and demand*	*La Paz County, WACOG, DES*

Name of System	Responsible Jurisdiction / Agency	Operator	Number & Type of Vehicles (Bus, Minibus, van, etc.)	Service Area	Eligible Population	Service Type (Fixed Route, Demand Responsive)	Days & Hours of Service	Major Funding Sources
Van services	*Town of Quartzsite*	*Town of Quartzsite*		*Town of Quartzsite; service to Blythe, Parker, and Lake Havasu City*	*Seniors, people with disability*	*Demand-responsive service*	*Weekdays; Hours depend on destination and demand*	
*Desert RoadRunner[18]**	*Palo Verde Valley Transit Agency (California)*	*Transportation Concepts*		*Ehrenburg and services in and around Blythe, CA*	*General public*	*Flexible fixed-route*	*Mon-Thurs: 5:40 am to 10:30 pm Fri: 5:40 am to 7:30 pm Sat-Sun: 8am to 5:30 pm*	
YCAT	*Yuma Metropolitan Planning Organization*	*Saguaro Transportation Services*		*Yuma County*	*General public*	*Fixed-route*	*Mon-Sat: 6am to 10pm*	
YMPO Dial-a-Ride	*Yuma Metropolitan Planning Organization*	*Saguaro Transportation Services*			*Seniors, persons with disabilities*	*ADA complementary paratransit (demand-responsive)*	*Mon-Sat: 5am to 10pm*	

[18] Desert Roadrunner Dial-a-Ride service does not extend to Ehrenburg.

Name of System	Responsible Jurisdiction / Agency	Operator	Number & Type of Vehicles (Bus, Minibus, van, etc.)	Service Area	Eligible Population	Service Type (Fixed Route, Demand Responsive)	Days & Hours of Service	Major Funding Sources
Silver Ridge Village	*Siler Ridge Village*	*Silver Ridge Village*	*Two vans*	*Bullhead City, Mohave Valley*	*Residents of Silver Ridge Village nursing facility and related organizations*[19]	*Demand-responsive for medical appointments and recreational opportunities*	*As needed*	*FTA 5310*
Mohave Mental Health Center			*12 vans*	*Kingman, Lake Havasu City, Bullhead City.*				
Van Services	*Mohave County Association for Retarded Citizens (MARC)*	*MARC*	*Four vans*	*Greater Kingman area, including surrounding communities*	*Special needs clients*	*Transit services for training and living skills workshops and employment*	*As needed*	*MARC budget, FTA 5310 capital assistance*
Transit services	*New Horizons*	*New Horizons*	*Not known*	*Lake Havasu; transportation to Special Olympics*	*Developmentally disabled community*	*As needed*	*As needed*	*Not known*
Door-to-door transit services	*Mohave County Senior Program*	*Mohave Senior Program*	*11 vehicles (may be vans or cutaways) with lifts*	*Mohave County*	*Seniors, seniors with disabilities*		*Weekdays, 8 am to 4 pm*	*LTAF II, Donations*

[19] Related organizations include River Gardens Rehab & Care Center, Rustler's Outpost Learning Center, The Gardens Rehab & Care Center, The Lingenfelter Center and The Lily Pad Day Care Center.

Name of System	Responsible Jurisdiction / Agency	Operator	Number & Type of Vehicles (Bus, Minibus, van, etc.)	Service Area	Eligible Population	Service Type (Fixed Route, Demand Responsive)	Days & Hours of Service	Major Funding Sources
Hualapai transportation services	*Hualapai Tribal Nation Health Department*	*Hualapai Tribal Nation Health Department*	*10 vehicles*	*Hualapai Nation*	*Seniors, persons with disabilities, low-income persons*	*Demand-responsive*	*As needed*	*FTA 5310 Capital assistance, FTA 5316 JARC (job access), Tribal funds*
Limited services	*Grand Canyon Resort Corporation*	*Grand Canyon Resort Corporation*	*Three vans*	*Peach Springs to Grand Canyon West*	*General Hualapai public*	*As needed*	*As needed*	*Tribal funds*
Child protective services	*Mohave County Child Protective Services*	*WestCare*	*Five vans, two buses*	*Mohave County*	*Children who are referrals from case workers*	*As needed*	*Every day, 7 am to 7 pm*	*Child protective services*
Van services	*Central Arizona Council for Developmentally Disabled*	*Central Arizona Council for Developmentally Disabled*	*Three vans*	*Mohave County*	*Persons with disabilities*	*As needed for medical, religious, recreational, and community activities*	*Seven days per week,*	*Not known*
Van services	*Colorado City*	*Colorado City*	*One van*	*Colorado City to St. George, UT, or Flagstaff*	*General public*	*Demand-responsive, as needed*	*As needed*	*FTA 5310 capital funding*

Name of System	Responsible Jurisdiction / Agency	Operator	Number & Type of Vehicles (Bus, Minibus, van, etc.)	Service Area	Eligible Population	Service Type (Fixed Route, Demand Responsive)	Days & Hours of Service	Major Funding Sources
Title XIX Services/ AHCCCS	*Arizona Health Care Cost Containment System*	*The EXCEL Group, Statewide Express*	*Vans*	*La Paz County, Yuma County*	*People diagnosed as Seriously Mentally Ill (SMI), and/or who have a physical disability*	*As needed*	*Monday to Friday 5:00 am to 7:00 pm and Saturdays from 5:00 am to 9:00 pm.*	*Not known*
Saguaro Transportation	*Saguaro Foundation*	*Saguaro Transportation Services*	*Not known*	*Yuma County*	*Various (see text)*	*As needed*	*Varies*	*Various*
Senior transportation services	*City of Somerton*	*City of Somerton*	*Not known*	*Service to Nutrition Center from Somerton, Mesa Verde, Orange Grove, and Yuma County Housing*	*Seniors*	*As needed*	*Monday-Friday 7:00 am to 12:15 pm and on special occasions such as parades and field trips.*	
Senior transportation services	*City of San Luis*	*City of San Luis*	*Not known*	*San Luis area*	*Seniors*	*As needed*	*Five hours a day, five days a week*	

Name of System	Responsible Jurisdiction / Agency	Operator	Number & Type of Vehicles (Bus, Minibus, van, etc.)	Service Area	Eligible Population	Service Type (Fixed Route, Demand Responsive)	Days & Hours of Service	Major Funding Sources
Medical services	*Regional Center for Border Health*	*Regional Center for Border Health*		*Yuma County*	*Yuma County Residents*	*As needed*	*Hours differ depending on scheduled runs, but services start as early as 3:00 am and end at 11:00 pm, Monday through Saturday*	*Not known*
Counseling Clients	*Catholic Community Services in Western Arizona (CCSWA)*	*CCSWA*	*One van*	*Yuma County*	*Counseling clients*	*As needed*	*As needed*	*Not known*
Safe House Domestic Violence	*CCSWA*	*CCSWA*	*One van*	*Yuma County*	*Participants in Safe House Domestic Violence*	*As needed*	*As needed*	*Not known*
Adult Day Health Care	*CCSWA*	*CCSWA*	*One van*	*Yuma County*	*Participants in adult day health care programs*	*As needed*	*As needed*	*Not known*
WORC Center	*Yuma WORC Center*	*Yuma WORC Center*	*Not known*	*Yuma County, Blythe, CA*	*People with disabilities to work and training opportunities*	*As needed*		

2.5.3 Intercity Bus and Rail Passenger Transportation

In the Western region of Arizona, intercity bus and rail passenger services are present in all three counties. Bus services are provided by Greyhound, and passenger rail service is provided by Amtrak. Amtrak operates on tracks owned by Burlington Northern Santa Fe (BNSF). Service details are provided in the section below.

Yuma Focus Area
Greyhound service in Yuma County is present in the City of Yuma, which has a station located at 170 E. 17th Place. From Yuma, passengers may obtain direct service to Phoenix and El Centro, California, with continuing or connecting services to many other destinations.

Amtrak's "Sunset Limited" route, which operates three weekly round trips between Los Angeles, California, and New Orleans, Louisiana, stops in the City of Yuma. From Yuma, the next stop to the east is Maricopa, and to the west is North Palm Springs, California.

Mohave-La Paz Focus Area
In Mohave County, Greyhound Bus provides intercity bus services to and from Kingman. The station is located at KP Transportation, 3264 E. Andy Devine Avenue, in Kingman. Direct service to and from Las Vegas and Flagstaff is available from Kingman, with continuing or connecting services to many other destinations.

The Amtrak station in Kingman provides a stop for the "Southwest Chief" Amtrak route, which runs from Los Angeles to Chicago, with one train in each direction daily. From Kingman, passengers travel to the east to Williams Junction or west to Needles, California.

In La Paz County, Greyhound's bus station is located in Quartzsite. From Quartzsite, passengers may take direct intercity service to Phoenix or to Indio, California. Continuing and or connecting services from those locations is present to many other destinations. The Greyhound station in Quartzsite is located at Pilot Travel Center, 1201 W. Main Street.

There are no Amtrak services in La Paz County.

Table 2.10 Intercity Transit Services

Operator	Intercity Routes (in study area)	Days of Operation	Service Frequency or Trips per Day
Greyhound	Kingman-Las Vegas	Daily	Three trips/day
	Kingman-Flagstaff	Daily	Two trips/day
	Quartzsite-Phoenix	Daily	Two trips/day
	Quartzsite-Indio	Daily	Two trips/day
	Yuma-Phoenix	Daily	Two trips/day
	Yuma-Calexico	Daily	Two trips/day
Amtrak	Los Angeles to Chicago, stops in Kingman	Daily	One trip in each direction per day
	Los Angeles to New Orleans, stops in Yuma	Three days per week	Three trips per week in each direction

2.6 RAIL FREIGHT INFRASTRUCTURE AND SERVICES

Arizona provides rail infrastructure for freight traveling through the region and the country from the very busy ports of Long Beach and Los Angeles as well as Mexico. These linkages are important to the regional and national economy. The main lines through Western Arizona are:

- Burlington Northern Santa Fe: Connecting south of Needles, to Kingman, Peach Springs and on to Flagstaff. Total annual traffic for the entire line (not specifically Western Arizona) is 150 million gross tons.
- Arizona and California Railroad: Parker to Aguila connecting to the BNSF line just north of Wickenburg. This line is approximately 106 miles total, operates at a maximum speed of 49 mph and has annual carloads of 18,922 primarily carrying cement, lumber and steel. Total annual traffic for the entire line (not specifically Western Arizona) is 1.5 million gross tons.
- Union Pacific Railway: Yuma to Gila Bend. Total annual traffic from Yuma to Wellton is 78 million gross tons and 74 million gross tons from Wellton to Picacho.
- Yuma Valley Railway (Inactive): Yuma to San Luis, 6.5 miles.
- UP (Abandoned): East of Roll (east of Yuma) to just west of Buckeye

2.7 BICYCLE AND PEDESTRIAN TRANSPORTATION SYSTEMS

There currently are very limited bicycle and pedestrian facilities in the Western region, but significant improvements are planned for several cities.

Yuma Focus Area
There are limited established bicycling and pedestrian networks in the greater Yuma area, most of which are in the City of Yuma and generally offer little connectively between major activity centers. Several trails that will connect Yuma and San Luis within Yuma County are planned including a multi-use trail, which will accommodate both equestrian and non-motorized users, and a system of greenbelts, which will be cultivated or maintained in a natural state. Other elements include historic trails outside City limits used for recreational purposes.
Mohave-La Paz Focus Area
Minimal bicycle and pedestrian facilities exist in Quartzsite, Parker and Kingman with some existing and planned facilities in Lake Havasu City and Bullhead City.

Within Lake Havasu City there are a limited pedestrian system and no dedicated bikeways. There are only four roadways with sidewalks on both sides of the road continually for longer than a 1/2–mile segment. Eight roadways have continual sidewalks on one side of the roadway for longer than 1/2-mile. A ten-foot paved, multi-use path exists around the Island. A trail/bikeway system is planned that will link shoreline areas and roadways within the City. The system will include pedestrian paths and bikeways along major loop roads, trails through and between developed parcels, and trails that encompass the Island within the shoreline protection zone.

Within Bullhead City minimal bicycle and pedestrian facilities exist although there is a significant plan in place for paths coordinated under the Colorado River Heritage Greenway Project (Heritage Trail). The adopted Heritage Trail Plan calls for approximately 30 miles of trails. Approximately 12.9 miles of trails are planned or exist along Highway 68 and

Highway 95, 7.2 miles along City streets/parcels, 3.0 miles in Davis Camp/Laughlin Land, 2.3 miles on Arizona State Land, and 4.0 miles are planned or exist in City Parks.

2.8 PROGRAMMED (FUNDED) SHORT-TERM TRANSPORTATION IMPROVEMENTS

The short-term planned improvements for local jurisdictions and ADOT (for the Western Region) are summarized in Table 2.11. This is based on adopted TIP and CIP plans from YMPO and WACOG.

Table 2.11 Programmed Short-Term Roadway Improvements

Project	Location	Type of Work	Year	Major Funding Sources	Total Cost ($000)
ADOT 5-Year Program					
Yuma Valley Focus Area					
Area Service Highway	*Yuma*	*Construct Roadway*	2008	ADOT	*85*
Retention Basins	*Somerton*	*Construction*	2007-2011	*Federal Enhancement*	*640*
US 95 Somerton Gateway – Bingham Ave to Somerton Canal	*Somerton*	*Design and Construction*	2007-2011	*Federal Enhancement*	*550*
Local TIPs/CIPs					
Mohave-La Paz Focus Area					
Central St S. Mohave Ave	*Colorado City*	*Reconstruction*	2008	*HURF*	*424*
Jagerson S Hill-Bond St	*Mohave County*	*Reconstruction*	2008	*HURF/Match*	*655*
Adobe Rd	*Bullhead City*	*New construction*	2008	*HURF/Match*	*705*
N Banks St-4	*Kingman*	*Reconstruction*	2008	*HURF/Match*	*810*
Gordon Banks Signal	*Kingman*	*Signalization*	2008	*HURF*	*160*
Mohave Wash land/walkway	*Kingman*	*Construct walkway*	2008	*Federal*	*500*
Pima Walkway Mag-Acoma	*Lake Havasu City*	*Construct walkway*	2008	*Federal*	*1,000*
Beaver Dam Ped Bridge & Walkway	*Mohave County*	*Construct Bridge and Walkway*	2008	*Federal*	*499*
Plymouth Rd Walkway	*Quartzsite*	*Construct walkway and landscape*	2008	*Local*	*339*

Lake Havasu Ave	*Lake Havasu City*	*Reconstruction*	2009	*HURF/Match*	*405*
Adobe Rd	*Bullhead City*	*New Construction*	2009	*HURF/Match*	*705*
Kingman Railroad Pathway	*Kingman*	*Construct Walkway*	2009	*Federal*	*689*
Quail Train Beautification	*Quartzsite*	*Construct Walkway and Landscape*	2009	*Federal*	*350*
Acacia Way, Mohave-Havasu	*Bullhead City*	*New Construction*	2010	*HURF/Match*	*1,130*
Lake Havasu Ave	*Lake Havasu City*	*Reconstruction*	2010	*HURF/Match*	*1,340*
Gordon Drive	*Kingman*	*Reconstruction*	2010	*HURF/Match*	*760*
Eastern Ave/Railroad Pathway	*Kingman*	*Construct Walkway and Landscape*	2010	*Federal*	*500*
Salome Rd	*La Paz County*	*Reconstruction*	2011	*HURF*	*317*
Swanson	*Lake Havasu City*	*Reconstruction*	2011	*HURF/Match*	*625*
Banks Street	*Mohave County*	*Reconstruction*	2011	*HURF/Match*	*1,163*
Landon Drive	*Bullhead City*	*New Construction*	2011	*Local*	*1,685*
Gordon Drive	*Kingman*	*Reconstruction*	2011	*Local*	*860*
Mohave Wash Pathway	*Mohave County*	*Construct Pathway and north bank*	2011	*Local*	*414*
Gordon Drive #3	*Kingman*	*Reconstruction*	2012	*HURF/Match*	*740*
Riverside Drive	*La Paz County*	*Construct multi-use path*	2012	*Local*	*489*
Yuma Valley Focus Area					
Los Angeles Ave Median/Path	*Wellton*	*Design and Construction*	2007-2011	*Federal Enhancement*	*523*
Yuma Del Sol Multimodal Center	*Gila St at 3rd St*	*ROW Purchase and Construction*	2007-2011	*Federal Enhancement*	*606*
I-8 Landscaping	*Colorado River Bridge to Winterhaven Drive*	*Construction*	2007-2011	*Federal Enhancement*	*320*
Main Street-1st Street to Giss Pkwy	*Yuma*	*Design and Construction*	2007-2011	*Federal Enhancement*	*1,626*

Gateway Park- 4th Ave to Penitentiary Ave	*Yuma*	*Design and Construction*	2007-2011	*Federal Enhancement*	*531*
Yuma Crossing Pathway- Ave A to Prison Hill	*Yuma*	*Design and Construction*	2007-2011	*Federal Enhancement*	*530*
Pivot Point Project – Yuma Riverfront	*Yuma*	*Design and Construction*	2007-2011	*Federal Enhancement*	*1,323*
Main Street – Somerton to Bingham- Somerton	*Somerton*	*Design and Construction*	2007-2011	*Federal Enhancement*	*421*
West Wetland Parkway Beautification	*Yuma*	*Design and Construction*	2007-2011	*Federal Enhancement*	*945*
Ave 21E at Co.	*Yuma County*	*Bridge Replacement*	2008	*HURF*	*2,000*
Misc. Locations; Ave D @ Co. 15th St	*Yuma County*	*Intersection Improvements*	2008	*HURF*	*250*
Avenue C Reconstruction, 8th St to 1st St	*Yuma County*	*Reconstruction*	2008	*HURF*	*628*
North and South Frontage Road, Ave 9E to Ave 13E	*Yuma County*	*Widening*	2008	*HURF*	*2,704*
Traffic Signal Installation Program	*Yuma County*	*Signalization*	2008	*HURF*	*125*
Co. 14th St – Ave 7E to Ave 13E	*Yuma County*	*Reconstruction*	2008	*HURF*	*290*
Street Lights	*Yuma County*	*Lighting Installation*	2008	*HURF*	*50*
Co. 14th St	*Yuma County*	*Reconstruction and Intersection Improvements*	2008	*HURF*	*270*
Riverfront Development Grande Promenade	*Yuma*	*Design and Construction*	2008	*GRNT*	*480*
School Traffic Safety and Circulation Improvements	*Yuma*	*Various*	2008	*GRNT*	*50*
Orange Ave Improvements	*Yuma*	*Reconstruction and*	2008	*GRNT*	*500*

and Beautification		*Landscaping*			
Downtown/I-8 Trailblazing and City Identification Improvements	*Yuma*		2008	*OTHR*	*155*
24th St – Ave 6E to Ave 9E	*Yuma*		2008	*OTHR*	*3,500*
Ave 3E – Gila Ridge Rd to 32nd St	*Yuma*		2008	*OTHR*	*3,200*
Automated Traffic Counting	*Yuma*	*Intersection Improvements*	2008	*OTHR*	*100*
Bus Stops, Bus Bays, and Bus Shelters	*Yuma*	*Transit Infrastructure*	2008	*OTHR*	*75*
MCAS Sign and Signal Improvements	*Yuma*		2008	*OTHR*	*1,000*
1st Ave – Giss Pkwy to 12th St	*Yuma*		2008	*HURF*	*800*
Sidewalk Handicap Ramps	*Yuma*	*Reconstruction*	2008	*HURF*	*10*
1st Ave – 18th St to 12th St	*Yuma*		2008	*HURF*	*400*
3rd St – Magnolia Ave to Ave B	*Yuma*		2008	*HURF*	*40*
Engler Ave – 24th St and E. Palo Verde St	*Yuma*		2008	*HURF*	*100*
Arizona Ave – 32nd to 40th St	*Yuma*		2008	*ROAD*	*120*
40th St – Arizona Ave to Ave A	*Yuma*		2008	*ROAD*	*500*
24th St – Ave B to Ave C	*Yuma*		2008	*ROAD*	*100*
Ave A -40th St to Airport Loop Rd	*Yuma*		2008	*ROAD*	*50*
32nd St – Ave B to Ave C	*Yuma*	*Reconstruction*	2008	*ROAD*	*600*
32nd St – Ave C to Ave D	*Yuma*	*Reconstruction*	2008	*ROAD*	*250*
32nd St – Ave 3E to Ave 5E	*Yuma*	*Widening*	2008	*ROAD*	*420*
28th St – Ave B to Ave C	*Yuma*	*Construction*	2008	*ROAD*	*380*

12th St – 14th Ave to Ave B	*Yuma*		2008	*ROAD*	*250*
Arizona Ave – 16th to Giss Pkwy	*Yuma*		2008	*ROAD*	*400*
Expressway Access	*Yuma*	*Study*	2008	*ROAD*	*255*
Giss Pkwy – 4th Ave to I-8	*Yuma*		2008	*ROAD*	*450*
Ave A – 8th St to 16th St	*Yuma*		2008	*BOND*	*3,100*
12th St – 14th Ave to Ave B	*Yuma*		2008	*BOND*	*800*
24th St – Ave 6E to Ave 9E	*Yuma*		2008	*BOND*	*4,200*
Ave 3E – Gila Ridge Rd to 32nd St	*Yuma*		2008	*BOND*	*1,650*
24th St and Ave 3 ½ E – Ave 3E to 56th St	*Yuma*		2008	*BOND*	*4,006*
Orange Ave Improvements	*Yuma*	*Reconstruction and Beautification*	2008	*BOND*	*1,968*
Frontage Rd- Ave 9E to Ave 11E	*Yuma*		2008	*BOND*	*7,000*
Ave 10E	*Yuma*	*Widening*	2008	*BOND*	*4,000*
16th St and 4th Ave	*Yuma*	*Intersection Improvements*	2008	*BOND*	*2,000*
16th St	*Yuma*	*Widening*	2008	*BOND*	*6,430*
A St – 1st to 2nd St	*San Luis*	*Construction*	2008	*HURF*	*4*
C St – 1st St to 4th St	*San Luis*	*Construction*	2008	*HURF*	*20*
Los Angeles Ave – Coyote Wash to Mohawk Blvd	*Wellton*	*Sidewalk*	2008	*CDBG*	*99*
YMPO Transit	*YMPO*	*Various*	2008	*5303*	*32*
YMPO Transit	*YMPO*	*Various*	2008	*5307*	*1,769*
Misc. Locations; Ave D @ Co. 15th St	*Yuma County*	*Intersection Improvements*	2009	*HURF*	*250*
Irrigation Culvert Replacement	*Yuma County*	*Culvert Replacement*	2009	*HURF*	*250*

Traffic Signal Installation Program	*Yuma County*	*Signalization*	2009	*HURF*	*125*
North and South Frontage Road, Ave 9E to Ave 13E	*Yuma County*	*Widening*	2009	*HURF*	*1,250*
Co. 14th St – Ave 7E to Ave 13E	*Yuma County*	*Reconstruction*	2009	*HURF*	*1,346*
Ave 11E to Ave 12E	*Yuma County*	*Reconstruction*	2009	*HURF*	*1,000*
School Traffic Safety and Circulation Improvements	*Yuma*	*Various*	2009	*GRNT*	*50*
Automated Traffic Counting	*Yuma*	*Intersection Improvements*	2009	*OTHR*	*100*
Bus Stops, Bus Bays, and Bus Shelters	*Yuma*	*Transit Infrastructure*	2009	*OTHR*	*75*
MCAS Sign and Signal Improvements	*Yuma*		2009	*OTHR*	*1,000*
28th Street Storm Drainage	*Yuma*	*Design and Construction*	2009	*OTHR*	*1,000*
Sidewalk Handicap Ramps	*Yuma*	*Reconstruction*	2009	*HURF*	*10*
Thacker Lateral Multi-Use Path	*Yuma*	*Design and Construction*	2009	*HURF*	*580*
3rd St – Magnolia Ave to Ave B	*Yuma*		2009	*HURF*	*380*
8th Ave – 24th St to 32nd St	*Yuma*		2009	*HURF*	*135*
16th St – 45th Ave to Ave D	*Yuma*		2009	*ROAD*	*2,900*
24th St – Ave C to Ave D	*Yuma*		2009	*ROAD*	*200*
West Main Canal Multi-Use Path	*Yuma*		2009	*ROAD*	*80*
Giss Parkway Extension	*Yuma*		2009	*ROAD*	*800*
East Palo Verde St – Pacific Ave to Ave 2 ½ E	*Yuma*		2009	*ROAD*	*495*

32nd St – Ave C to Ave D	*Yuma*	*Reconstruction*	2009	*ROAD*	*200*
28th St – Ave B to Ave C	*Yuma*	*Construction*	2009	*ROAD*	*900*
Pacific Ave	*Yuma*	*Access Study and Implementation*	2009	*ROAD*	*40*
24th St – Ave 2 ½ E to Ave 3E	*Yuma*		2009	*ROAD*	*775*
Expressway Access	*Yuma*	*Study*	2009	*ROAD*	*223*
32nd St and Pacific Ave	*Yuma*	*Reconstruction*	2009	*ROAD*	*95*
40th St – Arizona Ave to Ave A	*Yuma*		2009	*BOND*	*800*
24th St – Ave B to Ave C	*Yuma*		2009	*BOND*	*1,080*
12th to 16th St – 4th Ave to Ave "A"	*Yuma*		2009	*BOND*	*500*
Maiden Lane and Gila Street – 1st St to Giss Pkwy	*Yuma*		2009	*BOND*	*475*
Ave A – 8th St to 16th St	*Yuma*		2009	*BOND*	*600*
Engler Ave – 24th St and Palo Verde St	*Yuma*		2009	*BOND*	*1,800*
Ave C – 24th to 32nd St	*Yuma*	*Reconstruction*	2009	*BOND*	*900*
12th St – 14th Ave to Ave B	*Yuma*		2009	*BOND*	*4,400*
24th St – Ave 6E to Ave 9E	*Yuma*		2009	*BOND*	*2,920*
32nd St – Ave 3E to Ave 5E	*Yuma*	*Widening*	2009	*BOND*	*3,810*
Frontage Rd- Ave 9E to Ave 11E	*Yuma*		2009	*BOND*	*1,000*
Giss Parkway – 4th Ave to I-8	*Yuma*		2009	*BOND*	*3,400*
28th St – Ave B to Ave C	*Yuma*	*Construction*	2009	*BOND*	*300*
Somerton Ave – Jefferson St to County 15th	*Somerton*	*Reconstruct and bury canal*	2009	*HURF*	*1,300*
2nd St – E to A St	*San Luis*	*Construction*	2009	*HURF*	*371*
D St – 1st St to 4th St	*San Luis*	*Construction*	2009	*HURF*	*18*

Coyote Bridge at Los Angeles Ave	*Wellton*	*Retrofit*	2010	*CDBG*	*100*
YMPO Transit	*YMPO*	*Various*	2009	*5303*	*32*
YMPO Transit	*YMPO*	*Various*	2009	*5307*	*3,196*
Irrigation Culvert Replacement	*Yuma County*	*Culvert Replacement*	2010	*HURF*	*300*
Avenue C Reconstruction, 8th St to 1st St	*Yuma County*	*Reconstruction*	2010	*HURF*	*250*
Traffic Signal Installation Program	*Yuma County*	*Signalization*	2010	*HURF*	*1,910*
Fortuna Ave Reconstruction Phase II, I-8 to 40th St	*Yuma County*	*Reconstruction*	2010	*HURF*	*125*
Ave B to Ave C	*Yuma County*	*Reconstruction*	2010	*HURF*	*440*
Street Lights	*Yuma County*	*Lighting Installation*	2010	*HURF*	*500*
Co. 14th St	*Yuma County*	*Reconstruction*	2010	*HURF*	*400*
West Main Canal Multi-use Path	*Yuma*	*Design and Construction*	2010	*GRNT*	*500*
School Traffic Safety and Circulation Improvements	*Yuma*	*Various*	2010	*GRNT*	*50*
Automated Traffic Counting	*Yuma*	*Intersection Improvements*	2010	*OTHR*	*100*
Bus Stops, Bus Bays, and Bus Shelters	*Yuma*	*Transit Infrastructure*	2010	*OTHR*	*75*
24th St and 3 ½ E – Ave 3E to 56th St	*Yuma*		2010	*OTHR*	*2,000*
Cataline Dr – 32nd St to 4th Ave	*Yuma*		2010	*HURF*	*550*
Elks Lane – 24th St to 14th Ave	*Yuma*		2010	*HURF*	*45*
Sidewalk Handicap Ramps	*Yuma*	*Reconstruction*	2010	*HURF*	*10*
28th St – 4th	*Yuma*		2010	*ROAD*	*300*

Ave to Alley W. of Madison					
West Main Canal Multi-Use Path	*Yuma*		2010	*ROAD*	*100*
Giss Parkway Extension	*Yuma*		2010	*ROAD*	*1,200*
East Palo Verde St – Pacific Ave to Ave 2 ½ E	*Yuma*		2010	*ROAD*	*1,575*
40th Street – Ave A to Ave B	*Yuma*	*Reconstruction*	2010	*ROAD*	*650*
36th St – Ave B to Ave C	*Yuma*	*Construction*	2010	*ROAD*	*285*
Ave C – 32nd to 40th St	*Yuma*	*Reconstruction*	2010	*ROAD*	*300*
Pacific Ave	*Yuma*	*Access Study and Implementation*	2010	*ROAD*	*90*
Expressway Access	*Yuma*	*Study*	2010	*ROAD*	*143*
32nd St and Pacific Ave	*Yuma*	*Reconstruction*	2010	*ROAD*	*373*
Ave 8 ½ E – 32nd St Expressway to 44th St	*Yuma*		2010	*ROAD*	*300*
40th St – Arizona Ave to Ave A	*Yuma*		2010	*BOND*	*4,500*
32nd St – Ave B to Ave C	*Yuma*	*Reconstruction*	2010	*BOND*	*6,000*
Ave C – 32nd St to 40th St	*Yuma*	*Reconstruction*	2010	*BOND*	*5,585*
24th St and Ave 3 ½ E – Ave 3E to 56th St	*Yuma*		2010	*BOND*	*6,936*
Frontage Rd-Ave 9E to Ave 11E	*Yuma*		2010	*BOND*	*6,020*
Ave 8E – 32nd St Expressway to 56th St	*Yuma*		2010	*BOND*	*11,302*
16th St and 4th Ave	*Yuma*	*Intersection Improvements*	2010	*BOND*	*2,000*
Ave B ½ and 32nd St	*Yuma*	*Traffic Signal*	2010	*IMPCT*	*240*
Somerton Ave at County 17th	*Somerton*	*Lateral Canal Reconstruction*	2010	*HURF*	*300*
Cesar Chavez – E to A St	*San Luis*	*Construction*	2010	*HURF*	*371*

E St – 1st to 4th	*San Luis*	*Construction*	2010	*HURF*	*16*
Dome Street Railroad Crossing	*Wellton*	*Construction*	2010	*UNK*	*125*
YMPO Transit	*YMPO*	*Various*	2010	*5303*	*32*
YMPO Transit	*YMPO*	*Various*	2010	*5307*	*4,475*
Misc. Locations; Ave D @ Co. 15th St	*Yuma County*	*Intersection Improvements*	2011	*HURF*	*250*
Irrigation Culvert Replacement	*Yuma County*	*Culvert Replacement*	2011	*HURF*	*250*
North and South Frontage Road, Ave 9E to Ave 13E	*Yuma County*	*Widening*	2011	*HURF*	*500*
Traffic Signal Installation Program	*Yuma County*	*Signalization*	2011	*HURF*	*125*
Ave 11E to Ave 12E	*Yuma County*	*Reconstruction*	2011	*HURF*	*1,000*
Ave 3E at US 95	*Yuma County*	*Reconstruction*	2011	*HURF*	*200*
School Traffic Safety and Circulation Improvements	*Yuma*	*Various*	2011	*GRNT*	*50*
Bus Stops, Bus Bays, and Bus Shelters	*Yuma*	*Transit Infrastructure*	2011	*OTHR*	*75*
24th St and 3 ½ E – Ave 3E to 56th St	*Yuma*		2011	*OTHR*	*2,000*
Elks Lane – 24th St to 14th Ave	*Yuma*		2011	*HURF*	*390*
El Paseo Real	*Yuma*	*Construction*	2011	*HURF*	*202*
4th Ave	*Yuma*	*Reconstruction*	2011	*ROAD*	*500*
40th Street – Ave A to Ave B	*Yuma*	*Reconstruction*	2011	*ROAD*	*800*
36th St – Ave B to Ave C	*Yuma*	*Construction*	2011	*ROAD*	*400*
Ave C – 32nd to 40th St	*Yuma*	*Reconstruction*	2011	*ROAD*	*700*
40th St – Ave B to Ave C	*Yuma*	*ROW Acquisition*	2011	*ROAD*	*600*

Ave C and 28th St	*Yuma*	*Traffic Signal Installation*	2011	*ROAD*	*250*
Pacific Ave	*Yuma*	*Access Study and Implementation*	2011	*ROAD*	*280*
'A' Canal Crossings	*Yuma*		2011	*ROAD*	*100*
Ave 6E- 32nd St to 40th St	*Yuma*	*Widening*	2011	*ROAD*	*500*
Ave 8 ½ E – 32nd St Expressway to 44th St	*Yuma*		2011	*ROAD*	*400*
Ave A – 8th St to 16th St	*Yuma*		2011	*BOND*	*4,550*
Ave C – 32nd to 40th St	*Yuma*	*Reconstruction*	2011	*BOND*	*300*
Ave C – 24th to 32nd St	*Yuma*	*Reconstruction*	2011	*BOND*	*5,500*
12th St – 14th Ave to Ave B	*Yuma*		2011	*BOND*	*3,600*
24th St and Ave 3 ½ E – Ave 3E to 56th St	*Yuma*		2011	*BOND*	*13,989*
Ave 8 ½ E – 32nd St Expressway to 44th St	*Yuma*		2011	*BOND*	*2,400*
4th Ave Corridor	*Yuma*	*Construction*	2011	*BOND*	*10,900*
Ave B at County 15th	*Somerton*	*Reconstruction*	2011	*HURF*	*300*
A St – 1st to 2nd St	*San Luis*	*Construction*	2011	*HURF*	*9*
B St – 1st St to 4th St	*San Luis*	*Construction*	2011	*HURF*	*62*
C St – 1st St to 4th St	*San Luis*	*Construction*	2011	*HURF*	*62*
D St – 1st St to 4th St	*San Luis*	*Construction*	2011	*HURF*	*58*
E St – 1st to 4th	*San Luis*	*Construction*	2011	*HURF*	*53*
Archibald Ave – A to F St	*San Luis*	*Construction*	2011	*HURF*	*166*
Mesa Ave – E St to Juan Sanchez Blvd	*San Luis*	*Construction*	2011	*HURF*	*54*
Mesa Ave – C to E St	*San Luis*	*Construction*	2011	*HURF*	*46*
E St – Archibald to Mesa Ave	*San Luis*	*Construction*	2011	*HURF*	*21*

F St – Main St to Mesa Ave	*San Luis*	*Construction*	2011	*HURF*	*28*
Juan Sanchez Blvd	*San Luis*	*Construction*	2011	*HURF*	*42*
Los Angeles Ave – Business Frontage Rd	*Wellton*	*Pavement*	2011	*UNK*	*300*
YMPO Transit	*YMPO*	*Various*	2011	*5303*	*32*
YMPO Transit	*YMPO*	*Various*	2011	*5307*	*3,900*

2.9 PLANNED (UNFUNDED) SHORT- AND LONG-RANGE IMPROVEMENTS

Short-term projects which have been identified but currently have no funding source, and those which have otherwise not been included in the TIP or CIP, are included in Table 2.12. The table also includes long-term projects. This is based on information provided by YMPO and WACOG.

Table 2.12 Planned Short- and Long-Range Improvements

Route	Location	Type of Work	Fiscal Year	Funding Participation
Highways				
16th St at Ave B	*Yuma*	*Right turn lane construction*	2011	*UNF*
36th St – Ave C to Ave D	*Yuma*	*Construction*	2011	*UNF*
Palo Verde Street	*Yuma*	*Construction*	2011	*UNF*
Ave D – 32nd St to 40th St	Yuma	ROW Acquisition	2012	Yuma
Avenue 9½E - 32nd St to 40th St	Yuma		2016	Yuma
Avenue 9E	Yuma	Construction	2018	Yuma
Avenue 4½E - 32nd St Expressway to 44th St	Yuma		2014	Yuma
Avenue 4E - Gila Ridge Rd to Yuma Expressway	Yuma		2014	Yuma
Avenue 5½E	Yuma	Construction	2012	Yuma
Ave 5E – 16th St Expressway to Yuma	Yuma		2014	Yuma

Expressway				
Ave 7 ½ E – 32nd Expressway to 56th St	Yuma		2011	Yuma
East Yuma Freeway	Yuma		2011	Yuma
40th St – Ave B to Ave D	Yuma		2015	Yuma
45th Ave – 5th St to 28th St	Yuma		2011	Yuma
4th Ave Integrated Corridor	Yuma		2011	Yuma
Ave B ½ - 32nd St to 40th St	Yuma	Construction	2012	Yuma - BOND
Ave C ½ - 36th St to 40th St	Yuma	Construction	2014	Yuma - BOND
28th St – 8th Ave to 4th Ave	Yuma		2012	Yuma - BOND
56th St – ASH to Ave 13E	Yuma		2013	Yuma - BOND
Ave 6E – 32nd St to 40th St	Yuma	Widening	2011	Yuma - BOND
24th St – North Frontage Rd	Yuma	Widening	2014	Yuma - BOND
32nd St Expressway	Yuma	Construction	2015	Yuma - BOND
36th St – Ave 3 ½ E to Ave 6E and Ave 7E to Ave 10E	Yuma		2015	Yuma - BOND
40th St – Ave 3 ½ E to Ave 10E	Yuma		2013	Yuma - BOND
16th St Expressway – Ave 2E to Ave 10E	Yuma		2015	Yuma - BOND
Yuma Expressway	Yuma		2015	Yuma - BOND
Ave 7E – Gila Ridge	Yuma		2014	Yuma – BOND

Rd to 52nd St				
Ave 7E – 32nd St Expressway to 56th St	Yuma		2014	Yuma - BOND
52nd St	Yuma	Construction	2015	Yuma - BOND
16th St – 6th Ave to 13th Ave	Yuma	Widening	2012	Yuma - BOND
Ave B – 24th to 32nd St	Yuma	Reconstruction	2012	Yuma - IMPCT
Ave B and 36th St	Yuma	Traffic Signal Install	2012	Yuma – IMPCT
40th St Bridge – ASH	Yuma		2011	Yuma – IMPCT
Pedestrian/Bicycle				
Ave D Bike Path	*Yuma*	*Construction*	*2013*	*UNF*
Ave C ½ Bike Path	*Yuma*	*Construction*	*2011*	*UNF*
'A' Canal Crossings	*Yuma*		*2010*	*IMPCT*

2.10 SUMMARY OF RELATED STUDIES AND REPORTS

The studies and reports listed below have been utilized for the Western Area Framework Study.

2.10.1 Completed Studies

Executive Order Response
Date Completed: 2007
Lead Agency: ADOT
Author: ADOT
Study Area: Statewide

WACOG Regional Transportation Plan
Date Completed: April 2007
Lead Agency: WACOG
Author: RAE Consultants
Study Area: WACOG region

YMPO Regional Transportation Plan
Date Completed: March 2007
Lead Agency: YMPO
Author: PB
Study Area: YMPO region

City of Somerton Small Area Transportation Study
Date Completed: December 2006
Lead Agency: City of Somerton
Author: Lima and Associates
Study Area: Somerton

Lake Havasu City Small Area Transportation Study (SATS)
Date Completed: March 2005
Lead Agency: Lake Havasu City
Author: PB
Study Area: Lake Havasu City

Kingman Area Transportation Study
Date Completed: January 2005
Lead Agency: Kingman
Author: PB
Study Area: Kingman

MoveAZ Long-Range Transportation Plan
Date Completed: September 2004
Lead Agency: ADOT
Author: Cambridge Systematics
Study Area: Statewide

SR 95 Access Management Study
Date Completed: July 2004
Lead Agency: ADOT
Author: Lima and Associates
Study Area: I-40 to Bill Williams River

Climbing Lane Prioritization Update
Date Completed: May 2004
Lead Agency: ADOT
Author: Lima and Associates
Study Area: Statewide

Passing Land Prioritization Update
Date Completed: May 2004
Lead Agency: ADOT
Author: Lima and Associates
Study Area: Statewide

Truck Escape Ramp Study
Date Completed: November 2003
Lead Agency: ADOT
Author: HDR
Study Area: Statewide

Route Transfer and Development Study
Date Completed: October 2003
Lead Agency: ADOT
Author: HDR
Study Area:Statewide

I-10 National Freight Study
Date Completed: May 2003
Lead Agency: FHWA
Author: Wilbur Smith
Study Area: I-10 Corridor, National

Feasibility Study for San Luis Port II
Date Completed:
Lead Agency: GSA
Author:
Study Area: San Luis

GSA Feasibility Study for San Luis Port I
Date Completed: 1994
Lead Agency: GSA
Author:
Study Area:

SR 195 (ASH) DCR/Environmental Studies/Feasibility Study
Date Completed: May 2005
Lead Agency: ADOT
Author: CH2M Hill
Study Area: Yuma

Federal Government Plans and Studies
BLM Yuma Field Office Proposed Resource Management Plan and Final Environmental Impact Statement
Date Completed: April 2008

Lead Agency: BLM
Author: BLM
Study Area: Yuma Region

BLM Lake Havasu Field Office Approved Resource Management Plan
Date Completed: May 2007
Lead Agency: BLM
Author: BLM
Study Area: Lake Havasu Region

BLM Arizona Strip Proposed Plan/Final EIS
Date Completed: March 2007
Lead Agency: BLM
Author: BLM
Study Area: Northern Arizona, north of Grand Canyon

NPS Grand Canyon Park North Rim Development Plan
Date Completed: September 2006
Lead Agency: NPS
Author: NPS
Study Area: North Rim of Grand Canyon National Park

Barry M. Goldwater Range Integrated Natural Resources Management Plan/Final Environmental Impact Statement
Date Completed: March 2006
Lead Agency: US Air Force and US Marine Corps
Author: US Air Force and US Marine Corps
Study Area: Barry M. Goldwater Range

National Park Service Colorado River Management Plan
Date Completed: 2006
Lead Agency: NPS
Author: NPS
Study Area: Colorado River through the Grand Canyon National Park

NPS Grand Canyon National Park General Management Plan
Date Completed: August 1995
Lead Agency: NPS
Author: NPS
Study Area: Grand Canyon National Park

FWS, Cabeza Prieta National Wildlife Refuge Final Comprehensive Conservation Plan, Final Environmental Impact Statement, and Final Wilderness Stewardship Plan
Date Completed: June 2005
Lead Agency: FWS
Author: FWS
Study Area: Cabeza Prieta Wildlife Refuge
Key Findings or Recommendations

NPS Lake Mead National Recreation Area, Lake Management Plan/FEIS
Date Completed: 2002
Lead Agency: NPS

Author: NPS
Study Area: Lake Mead area

Yuma Proving Ground Final Range Wide Environmental Impact Statement
Date Completed: July 2001
Lead Agency: US Army
Author: US Army
Study Area: Yuma Proving Ground

FWS, Kofa National Wildlife Refuge and Wilderness and New Water Mountains Wilderness Interagency Management Plan, EA, and ROD
Date Completed: October 1996
Lead Agency: FWS
Author: FWS
Study Area:Kofa Wildlife Refuge

FWS, Lower Colorado River National Wildlife Refuges Comprehensive Management Plan 1994-2014
Date Completed: 1994
Lead Agency: FWS
Author: FWS
Study Area: Lower Colorado River

Transit and Multimodal Plans

Rural Transit Needs Study
Date Completed: November 2007
Lead Agency: ADOT
Author: Cambridge Systematics
Study Area: Statewide

Arizona Rides Annual Report
Date Completed: December 2007
Lead Agency: ADOT
Author: ADOT
Study Area: Statewide

Statewide Bicycle and Pedestrian Plan
Date Completed: August 2003
Lead Agency: ADOT
Author: Kimley-Horn Associates
Study Area: Statewide

Arizona Multimodal Freight Study
Date Completed: November 2007
Lead Agency: ADOT
Author: Wilbur Smith
Study Area: Statewide

County Plans
Mohave County Comprehensive Plan
Date Completed: April 2005
Lead Agency: Mohave County

Author: Frelich, Leitner and Carlisle
Study Area: Mohave County

La Paz County Comprehensive Plan
Date Completed: May 2005
Lead Agency: La Paz County
Author: Partners for Strategic Action, Inc.
Study Area: La Paz County

Yuma County Comprehensive Plan
Date Completed: July 2006
Lead Agency: Yuma County
Author: Yuma County Department of Development Services
Study Area: Yuma County

City Plans
City of Kingman General Plan 2020
Date Completed: May 2004
Lead Agency: City of Kingman
Author: City of Kingman Planning and Zoning Department
Study Area: Kingman

Bullhead City General Plan
Date Completed: June 2002
Lead Agency: Bullhead City
Author: HDR
Study Area: Bullhead City

City of Yuma General Plan
Date Completed: July 2002
Lead Agency: City of Yuma
Author: City of Yuma
Study Area: Yuma

Lake Havasu City General Plan
Date Completed: August 2002
Lead Agency: Lake Havasu City
Author: Partners for Strategic Action, Inc.
Study Area: Lake Havasu City

Parker General Plan and Focused Future Strategic Plan
Date Completed: August 1995
Lead Agency: Town of Parker
Author: Peggy Fiandaca
Study Area: Town of Parker

Town of Quartzsite General Plan
Date Completed: 2003
Lead Agency: Town of Quartzsite
Author: Town of Quartzsite
Study Area: Quartzsite

City of Somerton General Plan and Focused Future Strategic Plan
Date Completed: 2003
Lead Agency: City of Somerton
Author: Peggy Fiandaca
Study Area: City of Somerton

City of San Luis General Plan and Focused Strategic Plan
Date Completed: 2003
Lead Agency: City of San Luis
Author: Peggy Fiandaca
Study Area: City of San Luis

2.10.2 Studies Currently Underway

San Luis Small Area Regional Study
Lead Agency: ADOT
Author:
Study Area: San Luis

Pedestrian Safety Action Plan
Lead Agency: ADOT
Author: Kimley-Horne Associates
Study Area: Statewide

SR 195 DCR/Environmental Studies
Lead Agency: ADOT
Author: Stanley
Study Area: (I-8 to US 95)